NEC Corporation of America

May 22, 2017

Joseph Perfetti – Director
Records Services Division
Chicago Police Department
Bureau of Administrative Services
3510 S. Michigan Avenue
Chicago, IL 60653
Joseph.Perfetti@chicagopolice.org

Re: Integra-ID™ 5 MBIS Upgrade Budgetary Proposal (Revised)

Dear Director Perfetti:

NEC Corporation of America (NEC) is pleased to submit this budgetary proposal to Chicago Police Department (CPD) for an upgrade to the Integra-ID 5 Multimodal Biometric Identification System (MBIS) and Archive platform. Integra-ID 5 represents NEC's latest biometric identification solution platform, combining its best-in-class fingerprint matching technology, an open service-oriented architecture (SOA) built on commercial off-the-shelf (COTS) hardware and software components for ease of future expansion. Please note that this proposal is based on the outcome of discussions between CPD and NEC personnel which took place during an-person meeting on April 6, 2017.

For over 30 years, NEC has delivered best-in-class biometric identification solutions to law enforcement, public safety, and civilian identity management agencies around the world, contributing to the enhanced safety of cities, states, and nations through the timely and accurate identification of individuals.

Should you have any questions, please contact Peter Sakkal, Sr. Account Manager, via phone at (613) 867-8030 or via email at peter.sakkal@necam.com.

Thank you, once again, for the opportunity to present this proposal for your review.

Sincerely,

Raffie Beroukhim
Senior Vice President
Advanced Recognition Systems
NEC Corporation of America

Orchestrating a brighter world NEC

An NEC Solution for

Chicago Police Department

Integra-ID™ 5 MBIS Upgrade Budgetary Proposal (Revised)

Proposal Number 02162017.02

May 22, 2017

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NEC Corporation of America

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1 Executive Summary

NEC Corporation of America (NEC) is pleased to submit this budgetary proposal to Chicago Police Department (CPD) for an upgrade to the Integra-ID 5 Multimodal Biometric Identification System (MBIS) and Archive platform.

NEC Corporation, an international *Fortune 500* Information and Communication Technology (ICT) Systems Integration (SI) company, is a global technology leader with a presence in over 160 countries and regions worldwide. With annual revenues exceeding $27 billion in FYE2016, of which approximately 5% was re-invested in research and development, it is no surprise that NEC was recently named on the Boston Consulting Group's (BCG) annual list of the 50 most innovative companies in the world[1].

Moreover, at a time when, once again, ownership changes and organizational consolidations within the safety and security industry are fundamentally altering its landscape, our corporate commitment to the law enforcement and public safety communities through excellence in biometric identification is unwavering.

It is with this commitment that NEC—through an ongoing series of technology innovations, the introduction of improved product development and delivery processes, and the addition of new management—has transformed. As evidenced by the number of significant competitive awards, more than any other organization in the past five years, NEC has been entrusted with the successful transition to the next generation of mission-critical biometric identification solutions for law enforcement agencies. Most notably, Illinois State Police, Ohio Attorney General's Office, Los Angeles County Sheriff's Department, and Australian National Police have all chosen NEC to implement their next generation biometric identification solutions.

It is with the same dedication and commitment to success that we also look forward to assisting CPD to successfully transition to a new platform.

NEC understands well that the future CPD AFIS must, at a minimum, incorporate the following:

- Current FBI NGI Electronic Biometric Transmission Specification (EBTS) standards
- Ongoing support and connectivity with existing interfaces
- Migration of existing fingerprints, palm prints, latent fingerprints, and latent palm prints to the new platform without loss of data integrity
- Maintaining automated processes based on established thresholds for quality and matching
- A solution that supports the existing functionality and anticipated database growth for the next seven years based on the above-mentioned activities

[1] https://media-publications.bcg.com/MIC/BCG-Most-Innovative-Companies-2015-Nov-2015.pdf

Committed Law Enforcement and Public Safety Identification Solutions Leader

NEC is pleased to introduce Integra-ID™ 5, NEC's latest biometric identification solution platform, combining its award-winning fingerprint and facial matching technologies with dynamic and intuitive functional capabilities designed specifically for law enforcement and public safety stakeholders. Integra-ID 5 is an industry standards-compliant, flexible, and reliable multimodal biometric identification solution based on field-proven and highly accurate commercial off-the-shelf (COTS) based matching platforms and integration components.

NIST-validated Biometrics Excellence, Ease-of-Use, and Flexible Workflows

In the biometrics marketplace, the Integra-ID 5 solution has proven to be the most forward-thinking, feature-rich, and user-friendly offering. Built on a service-oriented architecture (SOA), Integra-ID 5 is based on open source and web applications, leveraging virtualization and COTS software and hardware components from leading IT industry providers. The resulting platform facilitates ease of support, future expansion (such as the addition of new biometric identification services), and seamless integration with potential future systems and interfaces, such as fusion centers.

NEC's products offer out-of-the-box functionality due largely to our commitment to excellence. Our proposed solution is EBTS 10 ready, supporting Extended Feature Sets (EFS), 1000 ppi image resolution, business continuity, and provision for future biometric modalities, such as face and iris, as well as industry-leading products that deliver built-in protection of technology investments. For example, Integra-ID 5 was the first system to interface with the FBI NGI Increment 4 Rap Back program. The Utah Bureau of Criminal Investigation, an Integra-ID 5 user, is the first state to enjoy its benefits. Furthermore, Integra-ID 5 was the first system to interface with the FBI using web services and NIEM-compliant XML for RPIS transactions. The Virginia State Police was the first state to employ the EBTS 10 web services interface.

With its superior architectural design, unmatched biometric identification performance, and all-new graphical user interface (GUI), Integra-ID 5 is uniquely suited to offer the robustness and interoperability required to work effectively within and across multiple law enforcement and public safety organizations tasked with meeting today's security challenges (e.g., Major Crime, Terrorism).

Best-in-Class Identification with Seamless Interoperability at Your Fingertips

As a result, NEC has emerged as the leading biometric identification solutions provider, trusted for both criminal and civilian identity management and public safety project implementations, as evidenced by the results of every National Institute of Standards and Technology (NIST) benchmark test report since 2010, as well as 11 awards out of the last 14 competitive procurements (along with other third-party testimonials), including:

- **Illinois State Police** – Selected to replace the Automated Biometric Identification System and Archive System

- **Ohio Attorney General's Office** – Selected to replace both the Automated Biometric Identification System and the Computerized Criminal History System
- **Australian National Police Services (CrimTrac)** – Multimodal Biometric Identification System
- **Los Angeles County Sheriff's Department** – Multimodal Biometric Identification System
- **Mississippi Department of Public Safety** – Automated Fingerprint Identification System
- **Department of Homeland Security (Office of Biometric Management)** – Multimodal Biometric Identification System
- **Department of Homeland Security (U.S. ICE)** – Mobile Fingerprint Identification
- **U.S. Department of Veterans Affairs** – Livescan Fingerprint Capture Solution
- **Western Identification Network (WIN)** – Multimodal Biometric Identification System
- **Arizona Department of Transportation** – Face Recognition System

In addition to providing superior system performance, NEC has also led the way to a more cost-effective form of identity management by conceptualizing and introducing Identity as a Service (IDaaS) and secure hosted/cloud-based biometric identification solutions. To pioneer such solutions, NEC applied its expertise in cloud and managed services to biometric identification, placing its SOA-based Integra-ID 5 Multimodal Biometric Identification System (MBIS) solution on a private cloud dedicated to NEC criminal justice users. The IDaaS platform enables NEC to provide better managed services (monitoring, management, problem resolution) and improved performance (peak workload demands, backup, and security) at a lower cost.

Cloud-Based Biometric Identification Pioneer

While hosted solutions have only recently gained traction within the law enforcement industry, NEC has been at forefront of their evolution for more than 20 years. Our implementation and support of the WIN MBIS over the past two decades is a premier example of a hosted biometrics and identity management solution. NEC's expertise in hosted solutions has been further strengthened through implementations such as the Arizona Department of Transportation, Los Angeles County Sheriff's Department, and Las Vegas Metropolitan Police Department. Among biometrics providers, only NEC possesses such extensive IDaaS experience, enabling us to effectively and successfully implement these solutions.

NEC's technological excellence, inspired by our mission—*"Orchestrating a Brighter World"*—forms the foundation for our biometric identification products and solutions and our passion to support public safety. **Safety, Security, Equality, and Efficiency** are pillars of NEC's commitment to keep every community safe; and, as we are increasingly challenged by identity, criminal, and terrorist threats, NEC's dedication to this social value creation mission will continue to fuel our innovation.

A Commitment CPD Can Trust

With complete sincerity and no hesitation whatsoever, we believe that NEC provides the best technology, best value, and lowest risk proposition for the successful transition to CPD's future AFIS. Respectfully, we ask you for the opportunity to do so.

2 Upgrade Plan Alternatives

NEC's proposal contains two distinct delivery models for an upgrade of the existing system: *Traditional* purchase and *Identity as a Service (IDaaS)*.

Each of NEC's proposed alternative solutions are comprehensive, including complete legacy data migration and support for all existing CPD Archive and Tenprint-related workflows and interfaces.

As requested by CPD, responsibility for Investigation (Latent) Services, including latent image storage, searching, and maintenance, are assumed in this proposal to have been handed off to Illinois State Police (ISP). CPD's latent print database will be migrated to ISP at the outset of the AFIS upgrade process. NEC will achieve optimal results by leveraging its unparalleled knowledge of the CPD and ISP AFIS environments.

2.1 Traditional Upgrade Option

The *Traditional* upgrade model comprises an outright purchase of the Integra-ID MBIS with the option of either a single phase implementation; or, as defined below, a 2-phase implementation.

- **Phase 1 – Latent Print Migration to ISP and Archive**
  - **Latent Print Functionality Migration to ISP:** Includes CPD latent data conversion/migration, as well as integration and configuration of a Latent Agency (i.e., ISP) Model.
  - **Upgrade of Archive Services:** All archive functionality will be transitioned to the Integra-ID 5 Archive. NEC will provide a web-based Archive containing all ANSI/NIST arrest events as well as ancillary documents and mugshots. This phase will also begin the transition to the Integra-ID 5 unified Archive and MBIS database in preparation for Phase 2.
- **Phase 2 – MBIS**
  - **Upgrade of Identification (Tenprint) Services:** All functionality integral to identification and management of the tenprint database will be upgraded in this phase. All software required for Identification Services (Tenprint), including transaction controllers, external interfaces, and tenprint workstations will be updated to the Integra-ID 5 platform during this phase.

2.2 IDaaS Upgrade Option

Within the *IDaaS*-based delivery model, the proposed CPD AFIS upgrade is presented only as a single-phase implementation. A 2-phase implementation was not advantageous to CPD in terms of either service delivery or price.

Only NEC has a successfully proven track record of more than 20 years in providing hosted MBIS solutions.

IDaaS represents a business approach that transitions CPD's Records Services Division to an operational-expenditure funding model.

It can be the most cost-effective approach to assist law-enforcement organizations with implementing and maintaining modern biometric identification systems. IDaaS provides a commercial structure that significantly reduces the amount of up-front capital investment required for the replacement of the current AFIS.

Within the IDaaS solution delivery model option, NEC would upgrade the system in a single phase and own the hardware and software to be hosted at CPD (Primary Site) and an NEC FBI CJIS-audited facility (DR Site), providing MBIS as a service for an annual fee. NEC shall be responsible for all maintenance and system administration, supplying a contracted level of service, meeting the needs of CPD within its law enforcement community.

The optional IDaaS solution delivery model provides the following benefits over the traditional up-front purchase solution model:

- Significantly reduces the amount of needed up-front capital investment.
- Allows for fixed yearly budgeting by transitioning to an operational-expenditure funding model.
- Supplies a contracted level of service to CPD by assigning responsibility for all system management and maintenance to NEC.

2.3 Upgrade Advantages

Key highlights and advantages of the proposed upgrade are detailed in the table below.

Table 1: Upgrade Advantages

UPGRADE ADVANTAGES
AVAILABILITY
• High availability storage repository and matching system leading to continued reliability and performance of the proposed system.
ACCURACY
• Addition of full palmprint matching and storage, leading to more identifications. • Addition of slap print (plain impression) storage and matching for an increased tenprint hit rate. • Addition of 10-finger RDBT for higher accuracy and additional flexibility in identification searches initiated from both mobile ID and livescan submissions. • Addition of NEC's latest advances in latent identification, including NEC's Vertical Ridge Patterning (VRP) and Fusion Matching provided by ISP's new Integra-5 MBIS platform. • Event-based database, providing multiple arrest event records per subject in the MBIS for searching.

UPGRADE ADVANTAGES
• Provision of storage and display for NIST records captured at 500 and 1000 ppi.
INTEROPERABILITY
• Seamless interoperability for latent search to ISP and FBI • Open architecture and compliance to NIST EBTS version 10.0 standards.
FEATURES / FLEXIBILITY
• Support current CPD defined TOTs as well as provide the ability to add future semi-customizable TOTs based on existing workflows. • Unified AFIS and web-based Archive database with local copy of all NIST data. • A fully searchable web-based Archive, including storage and display of fingerprints, palmprints, demographic data, mugshots, iris, user defined notes, and other files (documents, photos, forms, etc.) in common electronic file formats; and storage of other biometric modalities in their native NIST formats. • Superior MBIS administration, management, and reporting capabilities, including the ability to generate customer configured reports.

2.4 Data Transition

NEC's proposed data transition provides the following benefits to CPD:

- **Unsolved Latent Data** – The importance of having complete data migration, including the painstaking work previously performed by CPD latent examiners, is critical to CPD's mission. To address this priority, NEC will electronically migrate all CPD unsolved latent records to ISP.

Complete data migration with no loss of quality to the painstaking work previously performed by your latent examiners

- **Tenprint Data** – NEC will transfer composite minutiae of records in the existing system, which are more accurate than the records in the Archive system, thus leading to better-quality records, higher accuracy, and better results.
- **Archive Data** – NEC will transfer all records in the CPD archive to maintain the record of NIST transactions in the CPD files.

These data transition advantages are unique to an NEC solution, providing optimal conditions for system accuracy, while potentially saving CPD countless labor hours of unnecessary quality control and consolidation.

2.5 Other Key Advantages

Personnel, support, and management of the CPD MBIS are among the key advantages available from NEC. Our personnel are in place and familiar with CPD. If not more importantly, CPD personnel are also very familiar with NEC and its team.

NEC has experienced staff, CJIS-compliant facilities, and system support and management processes already in place.

2.6 Summary

Unlike technology-only purchases common to this industry, CPD will select a partner for a period potentially much longer than 10 years. In an ever-changing industry, the character and business practices of those vying for your trust cannot be discounted. For the past 24 years, NEC has been a stable and loyal partner to CPD. With a demonstrated commitment to this market as evidenced by an industry best-in-class SOA and private, secure cloud platform, combined with the most comprehensive, lowest-risk transition plan which uniquely ensures complete legacy fingerprint data migration, we proudly present these capabilities in support of a renewed partnership with CPD.

3 Proposed Integra-ID 5 Solution

As a solutions provider, NEC builds and delivers turnkey systems that meet our customers' precise needs and specifications. The core Integra-ID™ 5 architecture focuses on the integration of proven hardware and software to provide a solid infrastructure that can fully support all of CPD's identification and Continuity of Operations (COOP) requirements.

With the proposed solutions, NEC will upgrade CPD's existing AFIS and Archive systems to the Integra-ID 5 MBIS and integrated Archive platform, including a full DR solution in an Active–Active disaster recovery configuration. NEC's award-winning NeoFace face recognition technology is also included, as an option, within both proposed solutions.

3.1 Solution Overview

As described in Section 2. NEC is pleased to offer two delivery model options for the replacement of the existing system—**Traditional Upgrade** and **IDaaS Upgrade**. Both delivery models will be comprised of the same features and functionality, as well as expand the current AFIS functionality to the most modern MBIS and Archive platform available on the market today.

Figure 1 is a high-level diagram of the proposed Integra-ID 5 system configuration for the **Traditional Upgrade** delivery option. This option includes a fully integrated NIST-based Archive, Disaster Recovery system, and optional Face Recognition software.

Figure 1: Proposed Integra-ID 5 MBIS Configuration – Traditional Upgrade Option

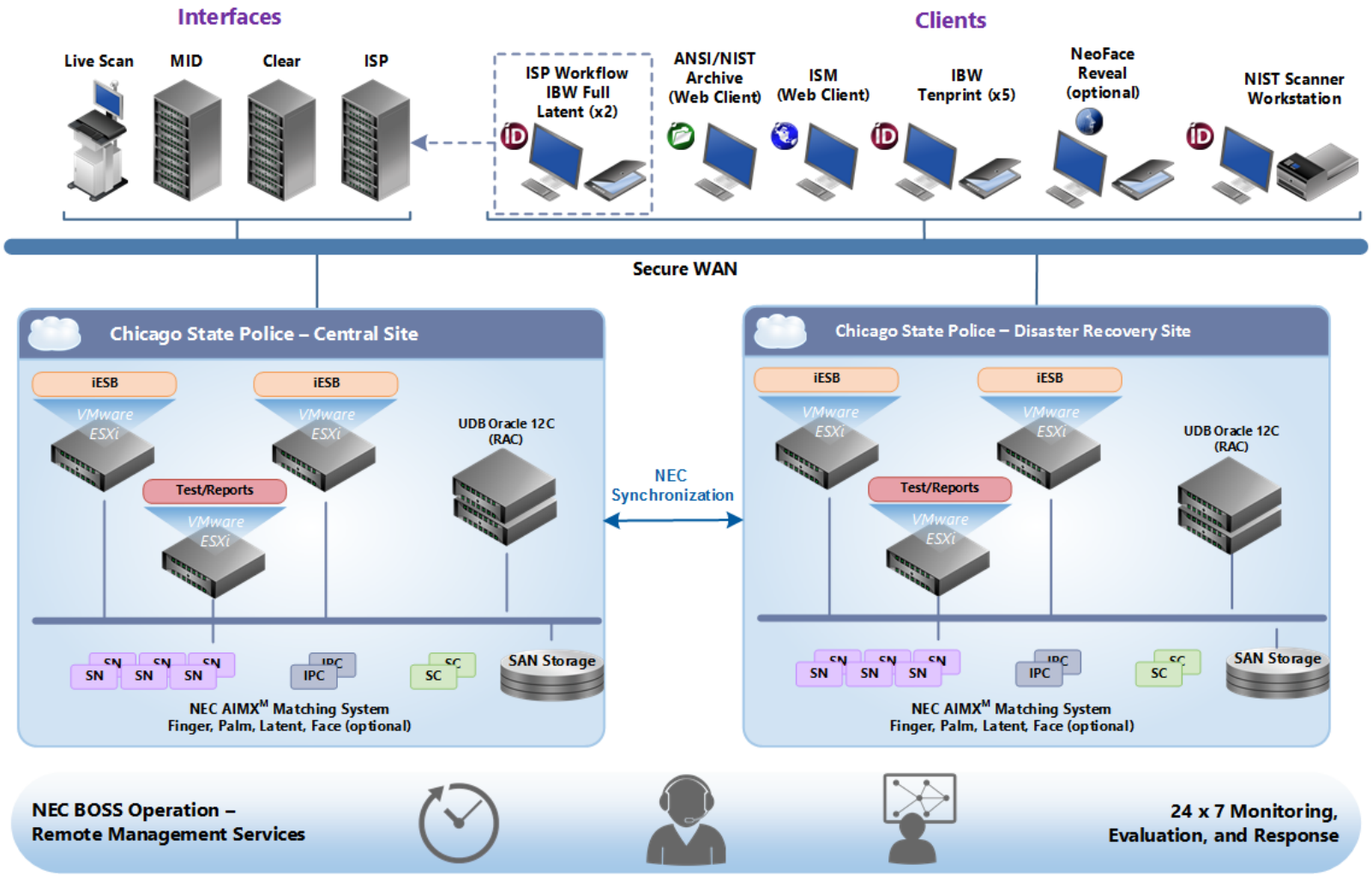
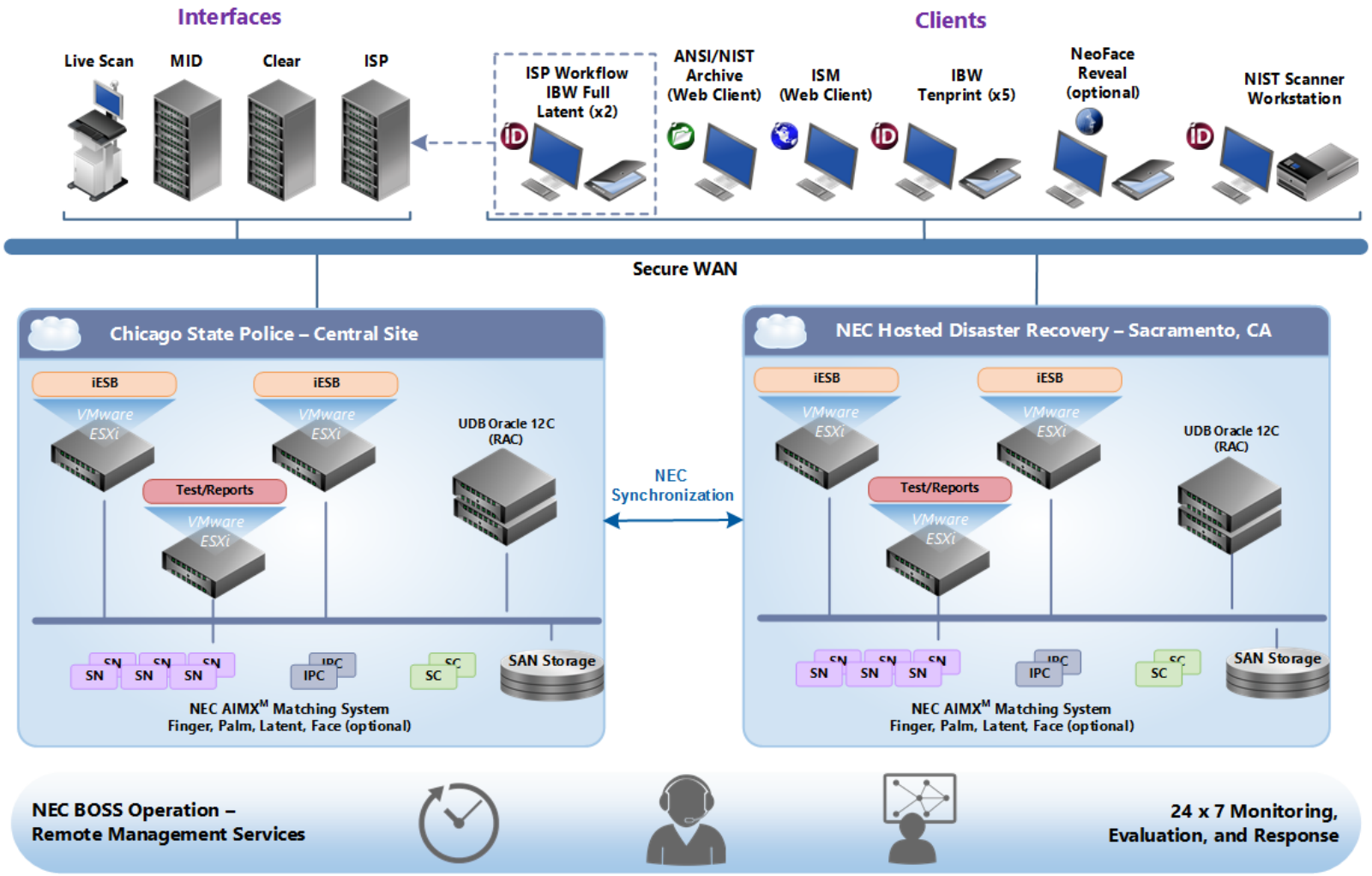


Figure 2 is a high-level system configuration diagram based on the **IDaaS Upgrade** delivery model, which also includes a fully integrated NIST-based Archive, Disaster Recovery system, and optional Face Recognition software.

Figure 2: Proposed Integra-ID 5 MBIS Configuration – IDaaS Upgrade Option



The critical hardware components are easily expandable to meet future needs for growth and increased workloads. The integrated online transaction processing software and customized workflows will allow CPD to operate effectively and with minimal operator intervention.

Table 2 provides an overview of the proposed baseline components that will be delivered as a part of the Integra-ID 5 system.

Table 2: Integra-ID 5 Components

SYSTEM COMPONENTS	DESCRIPTION
Identity Enterprise Service Bus (iESB) Transaction Controller Server	The iESB manages all workflows and all external interfaces. It maintains the Work In Progress (WIP) queue and tracks all activities and roles for all users. The iESB hosts all the necessary external interfaces, workstation interface, and administrative access. The iESB houses all services relating to the AFIS transaction control and Archive. It is the reports server and the server for communication to the workstations in the field, as well as the FBI via ISP Gateway.
Image Processing Controller (IPC)	The IPC is used for feature extraction, automatic classification, finger sequence check, and quality control, the IPC processes fingerprint, palmprint images.
Unified Database (UDB)	Via an Oracle RDBMS, the UDB manages all access to the system and stores MBIS images, descriptive information, feature data, necessary audit trail data, report data, user profile data, and, for the NIST Archive metadata search component, the original NIST records and associated metadata.
AIM X^M Multimodal Matcher	AIMX^M provides integrated services for fingerprint and palmprint matching with the following key components: • **Search Controller** – Manages the feature container storage and the loads on the search nodes, and manages the requests and workload on the search nodes. It distributes and aggregates the search jobs. It also manages gallery segmentation to the search nodes. • **Search Node** – Performs 1:N searching. It communicates with other search nodes using peer-to-peer SLA management to distribute gallery segments when necessary. Search Nodes have the feature set templates distributed across them and the templates are loaded into memory for fast access. For searching the SNs host the minutia feature sets for fingerprints, palmprints and faces (optionally) • **Verification Node** – Performs 1:1 verification matches.

SYSTEM COMPONENTS	DESCRIPTION
Integrated Biometric Workstation 5 (IBW 5) Tenprint & Palmprint Verification NSW	IBW 5, a Microsoft Windows® 10-based PC, serves as the user interface to the Integra-ID 5 AFIS. It provides a single login point to run tenprint, and palmprint, functionality. User profile and workstation purpose, however, dictate available functions. These workstations provide the feature rich user experience of a client-server model. Utilizing Windows 10's enhanced touchscreen capabilities, IBW 5 provides a contemporary and interactive user interface (while also providing support for keyboard and mouse user interfaces).
Integrated Biometric Workstation 5 (IBW 5) ISP-type Full Latent Workstation	IBW 5, a Microsoft Windows® 10-based PC, serves as the user interface to the Integra-ID 5 AFIS. IBW 5 provides a single login point to run latent functionality. User profile and workstation purpose, however, dictate available functions. These workstations provide the feature rich user experience of a client-server model. Utilizing Windows 10's enhanced touchscreen capabilities, IBW 5 provides a contemporary and interactive user interface (while also providing support for keyboard and mouse user interfaces).
FastID Workstation	The FastID workstation provides a 1:1 and 1:N fingerprint identification function for the non-fingerprint expert. It is a lights-out process used for pre-booking and jail management identification needs. Each workstation will have a 4-4-2 quick capture scanner. Built using the .NET platform, these workstations provide the feature rich user experience of a client-server model.
Optional Reveal Workstation	Microsoft Windows 10®-based, the workstation serves as the user interface to the NeoFace Reveal system. It provides a single logon point to run all available user functions such as image capture, image enhancement, search submission for back-end facial recognition matching, and search verification. User profile, however, dictates available functions.

3.2 Remote Management Services

As part of its enhanced biometric service offerings, NEC provides Remote Management Services (RMS) through our Biometric Operations Support Service (BOSS) center in Rancho Cordova, California and Irving, Texas, including 24-hour, real-time monitoring. The RMS package provides a number of different monitoring/diagnostic tools and resources that NEC uses as part of the overall check for system integrity.

3.3 Design Parameters

This Integra-ID 5 solution presented to CPD is based upon the current system utilization and growth trending. The functional requirements, interface specifications, and finalized workflows for the solution will need to be confirmed as part of the requirements gathering process. NEC has made certain assumptions regarding system sizing that directly affect the system design specified herein.

NEC proposes the following baseline design parameters for the CPD MBIS based upon the system performance and estimated sizing requirements. These parameters are based on an operational schedule of seven (7) days per week, twenty-four (24) hours per day.

Table 3: Integra-ID 5 Database Design

DATABASE	CONVERSION	DESIGN	REMARKS
MINUTIA/IMAGE DATABASE (SEARCHABLE)			
Rolled Database – Tenprint	2,168,875	2,600,000	Composite Best Quality Records
Slap Database – Tenprint	907,396	2,600,000	Composite Best Quality Records
Rolled Database – Latent Search	2,168,875	5,000,000	Day One Forward, Event–Based
Slap Database – Latent Search	907,396	5,000,000	Day One Forward, Event–Based
Latent Fingerprint Database	7,338	N/A	
Palmprint Database – Full	620,203	1,000,000	Composite Best Quality Records
Latent Palmprint Database	1,316	N/A	
Face	1,800,000	5,400,000	(Optional)
NIST ARCHIVE			
Type 1, 2, and 4 – Fingerprint (500 ppi)	5,100,000	7,600,000	
Type 10 – Photo	1,800,000	5,400,000	
Type 15 – Palmprint (500 ppi)	1,400,000	5,400,000	
Other Documents	0	5,000,000	

Table 4: Integra-ID 5 Transaction Volumes

Transaction Volumes	Daily	Peak	Avg. Response Time (Minutes)	Op. Hours	Remarks
Tenprint Submission	2,500	250		24	
Tenprint Inquiry (TI)	1,250	100	5	24	
FastID Searches 1:N	1,250	100	1	24	
Palmprint Submission	2,000	200		24	
Face	1250	100	1	24	Optional

Table 5: Integra-ID 5 Baseline Devices

Baseline Device	Type	Design	Remarks
Integrated Biometric Workstation 5 (IBW 5)	Tenprint and Palmprint Verification NSW	5	Desktop PC, flatbed scanner, single monitor.
Integrated Biometric Workstation 5 (IBW 5)	Full Latent Workstation	2	Desktop PC, flatbed scanner, latent camera, dual monitors.
FastID Workstation	FastID functionality	1	Desktop PC, 4-4-2 scanner
Print Server	Print Server with FBI IQS Appendix F Certified printers	1	
Color Network Printers	Lexmark C544N Network Printer	3	For printing from any device on the network

Table 6: Integra-ID 5 Baseline Interfaces

Feature	Remarks
NIST SSO	Baseline feature – Allows NIST records to be transmitted and searched against the ISP MBIS.
ESSO Feature	Baseline feature – Enhanced Search Sent to Other AFIS for quickly searching latent prints against the ISP MBIS.
Livescan Interface	Baseline feature – NEC standard livescan interface protocol.
Archive Interface	Baseline feature – Web-based access for remote users and IBW 5.
CCH Interface	Interface to CPD CLEAR system.
Mobile ID Gateway Interface	Interface to receive RPIS transactions from the CPD Mobile ID system and send responses.

3.4 Workflow Overview

Figure 3 provides an overview of the proposed tenprint workflow. This workflow is currently implemented on the existing system.

Figure 3: Tenprint Workflow Overview

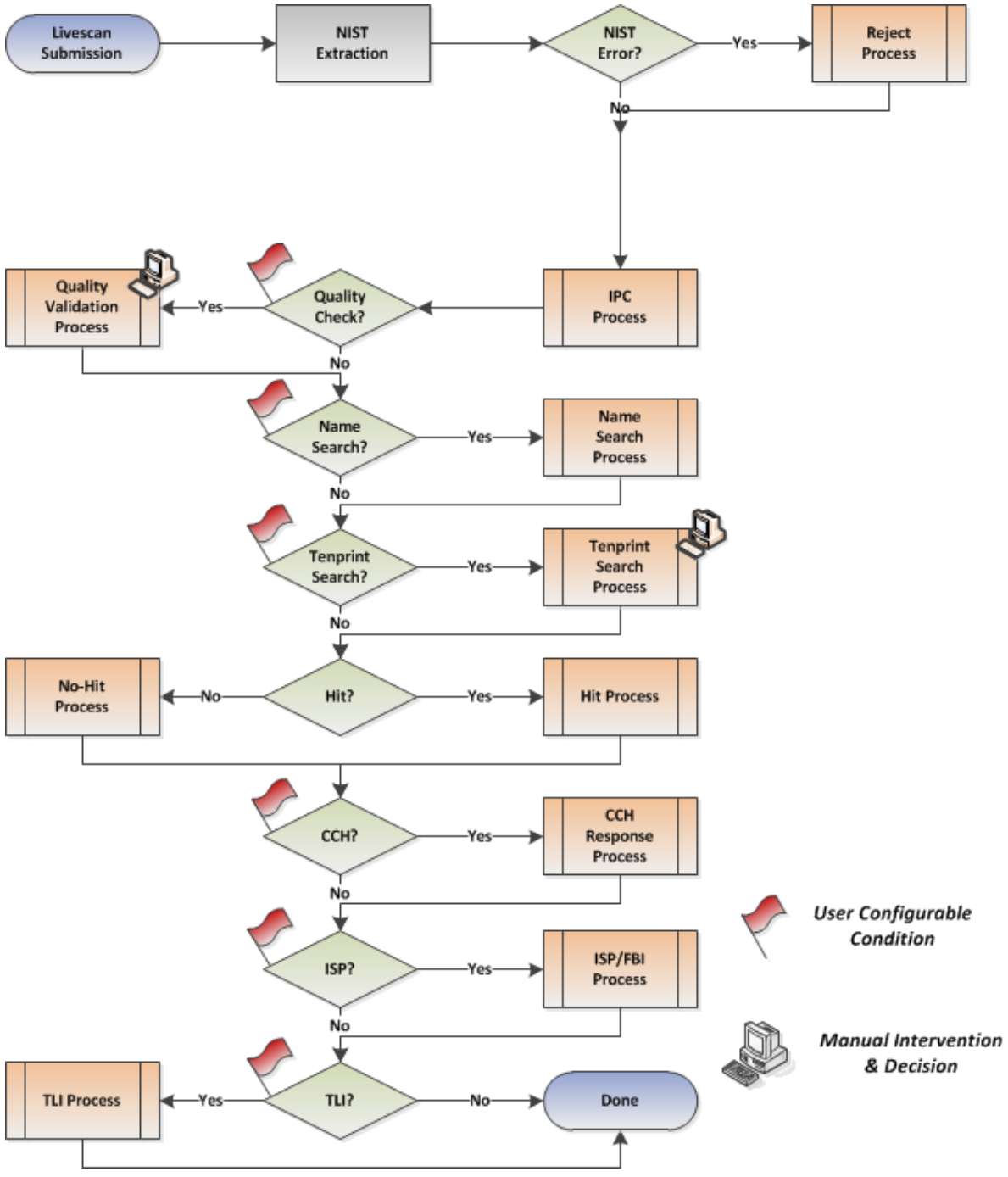
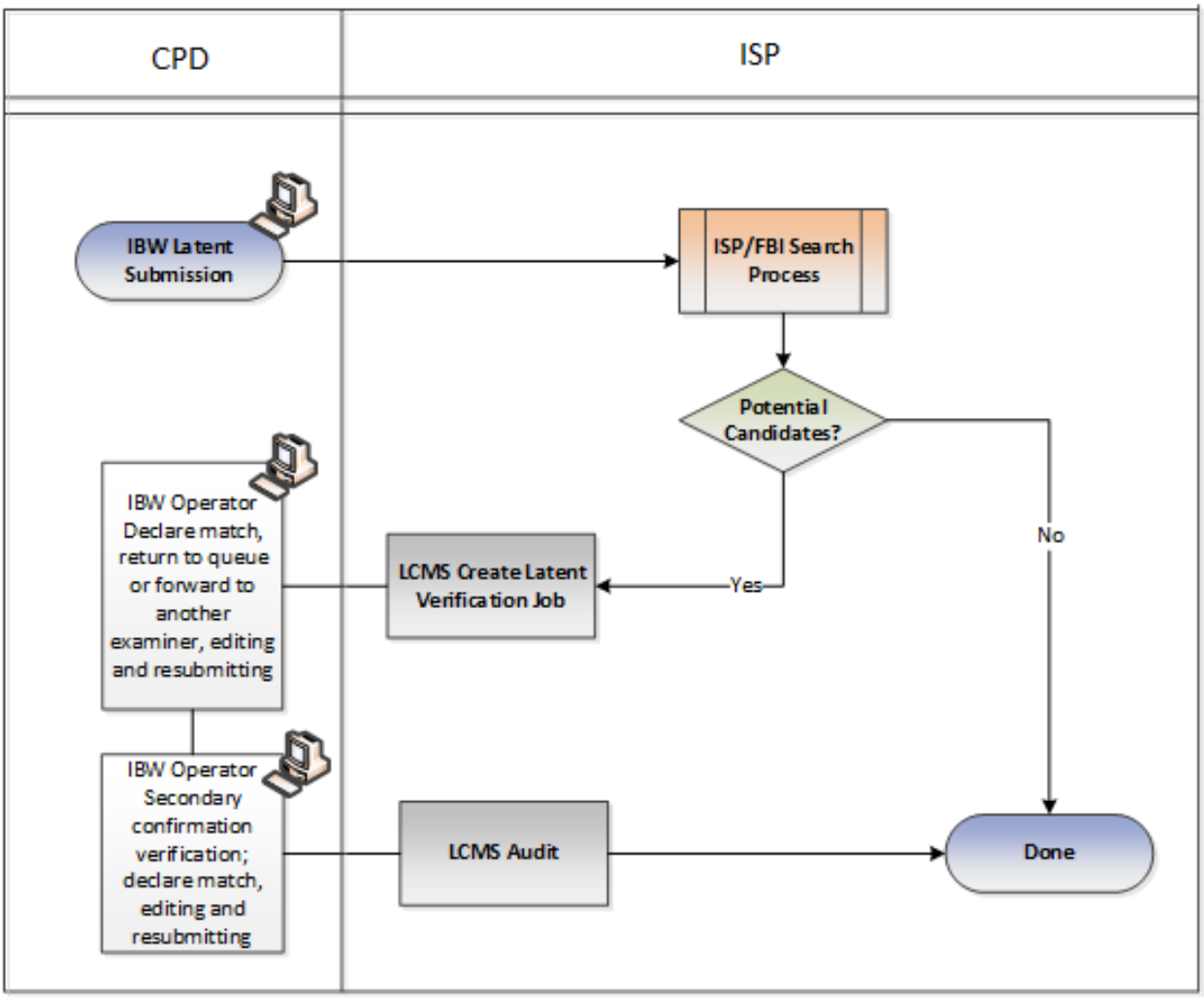


Figure 4 provides an overview of the proposed latent workflow. Detailed workflows will be defined in the Scope of Work document.

Figure 4: Latent Workflow Overview



4 Integra-ID 5 Overview

NEC's current Multimodal Biometric Identification System (MBIS) offering, Integra-ID 5, incorporates NEC's latest multimodal biometric matching algorithms with a service-oriented architecture (SOA) that provides the flexibility, reliability, and speed that law enforcement agencies demand to do their work effectively.

A commercial off-the-shelf (COTS) solution, Integra-ID 5 leverages the latest industry standard hardware and software technologies to provide a system with superior performance, flexibility in deployment, reduction in costs, and one that enables IT departments to better plan and manage hardware resources. Integra-ID 5 enables the integration of existing hardware with newer, high-performance hardware as the system needs expand without the need for wholesale replacement of existing system resources. NEC's solution provides an overall lower total cost of ownership for the initial system and more affordable path for future upgrades.

Integra-ID 5 will provide CPD with a scalable, SOA platform that will seamlessly integrate with other agency-specific applications, while enabling the application to make use of NEC's fast and highly accurate fingerprint and palmprint technology, as well as our award-winning face recognition technology.

Some of the highlights of the proposed Integra-ID 5 system include:

- A fully searchable web-based Archive, including fingerprints, palmprints, demographic data, mugshots, and files (documents, photos, forms, etc.) in common electronic file formats.
- Meta-search data mining capabilities, providing the ability to easily locate and retrieve information based upon keyword(s) and/or targeted searches toward National Institute of Standards and technology (NIST) records and other documents/files within the NEC Archive.
- Award-winning highly accurate, fast, and reliable NEC (fingerprint and face) matching algorithms (that have been independently tested and validated by the NIST[2]).
- *FastID*, a fast and accurate booking and release identification solution and applicant processing with fast, single-finger capture.
- Interoperability for a seamless latent search to NGI (via the new ISP ABIS) directly from the Integra-ID 5 MBIS *Integrated Biometric Workstation 5 (IBW 5)*.
- NEC's Vertical Ridge Patterning (VRP) for semi-automated latent processing of good quality latent lifts in the ISP MBIS.
- Provision of storage and display for NIST records captured at 500 and 1000 ppi.
- Full palm (hand) matching and storage, leading to more identifications.
- Slap (plain impression) storage and matching for an increased tenprint hit rate.
- Dynamic workflow management that provides the flexibility to instantly change system workflows and reporting requirements without system interruption.

[2] The results of the NIST Fingerprint Vendor Technology Evaluation (FpVTE) 2014 can be found at: http://nvlpubs.nist.gov/nistpubs/ir/2014/NIST.IR.8034.pdf. The results of the NIST Face Recognition Vendor Test (FRVT) 2013 were published in the NIST Interagency Report 8009 (NISTIR 8009) – Performance of Face Recognition Algorithms, and can be found at: http://biometrics.nist.gov/cs_links/face/frvt/frvt2013/NIST_8009.pdf.

- Event-based database, providing multiple arrest event records per subject in MBIS for searching.
- Proven CCH Interface
- Open architecture and compliance to NIST standards.
- Superior MBIS administration, management, and reporting capabilities.

4.1 Accuracy

Integra-ID 5 uses the latest proven matching algorithms produced in NEC Corporation's Research and Development laboratories in Tokyo to provide a solution that employs specific biometric algorithms for different types of prints. Latent print matching uses a different (and dedicated) algorithm from that used for rolled tenprint processing to optimize accuracy with low minutia count prints while optimizing response time when processing tenprint ID searches. This optimization makes Integra-ID 5 one of the fastest and most accurate systems available today.

Integra-ID 5 includes NEC's best-in-breed matching technologies for multiple biometric algorithms:

- **Latents** – Integra-ID 5 includes a latent fusion search method which uses two different matching algorithms (multi-algorithm search) and fuses the results, thus increasing the effectiveness of the algorithms and improving latent examiner efficiency by moving the true candidate higher and false candidates lower on the candidate list.
- **Tenprints** – Integra-ID 5 uses a multi-instance algorithm for increased accuracy on tenprint matching. The algorithm will use from 2 to 20 fingers, as needed, to confirm a positive ID or establish a no-hit for each search. By using up to 20 fingers per search, the number of tenprint transactions requiring manual operator verification is greatly reduced.
- **Faces (optional)** – Integra-ID 5 integrates NEC's NeoFace® which is the most accurate face recognition software available today, as independently verified by the National Institute of Standards and Technology (NIST). These tests also demonstrated that NeoFace provides the fastest matching capability while remaining resistant to variations in angle, age, gender, and race.

4.2 Flexibility

Integra-ID 5 includes a built-in Dynamic Workflow Manager that has the ability to host multiple workflow configuration and provides the flexibility to make rapid changes to the system. CPD could use this function, for instance, to process tenprint inquiries during the normal workday using a standard workflow, while using an alternate workflow when the tenprint section is not staffed.

4.3 Standards-Based Design

Integra-ID 5 provides a lower total cost of ownership via an easier and more affordable path for future upgrades. Integra-ID 5 is a standards based design, allowing CPD to acquire "best of breed" capture devices for livescan, mobile ID and other standards based workstation applications.

NEC stores all data, both tenprint and latent, in EBTS format allowing CPD to retrieve and export data as necessary without needing NEC assistance. In addition, NEC uses industry standard tools to allow CPD to create and manage workflows and reports if needed. Benefits of a standards based design include:

- **Interoperability** – NEC has a proven MBIS interoperability platform. We have directly integrated searching of MBIS systems at the local, state, and federal levels. NEC has implemented access to interoperability functions directly within the IBW 5 application, allowing for inline searching and verification directly from a single client application.
- **Data Exchange Interface** – Allows third-party applications to link with MBIS to exchange information; also allows interfaces with external subsystems like CLEAR, CCH/RMS, ISP MBIS, and FBI Next Generation Identification (NGI).

  The NEC external agency gateway also allows any livescan or mobile ID system to connect and submit to Integra-ID 5 as long as it conforms to industry standard EBTS and communication protocols.
- **Dynamic Workflow Management** – Ties together all the components to provide a customized and configurable workflow engine that can be easily managed at the user level. The Workflow module offers manageability in law enforcement environments that need variations in business rules, data flow, and operational procedures. This allows CPD to adapt the system as requirements change, implementing new business rules without establishing external, manual processes. The need for Excel spreadsheets and external databases to accomplish and monitor system tasks is eliminated. All tasks are recorded in the audit trail, allowing CPD to track the date/time and operator ID for all activities.

  NEC's workflow manager uses industry standard JBOSS Business Process Manager, allowing CPD to manage workflows if there is a need to do so, although NEC has never withdrawn support from a client.
- **Unified Database** – Integra-ID 5 uses a Unified Database (UDB) schema capable of storing structured MBIS image data, NIST archive data, feature sets, mugshots, and documents, including court papers, incident reports, rap sheets, search warrants, or any investigative documents. Digitized documents can be stored in the UDB to provide a single repository for search, viewing, and analysis. NEC's database design allows for simplified database management, allowing administrators a single place for enrollments, expungements, and record consolidations. It also provides data security, so users see and access only the data and functions allowed for that user role.
- **Flexibility** – Integra-ID 5 includes a built-in Dynamic Workflow Manager that hosts multiple workflows, providing the flexibility to make rapid changes to the system. CPD could use this

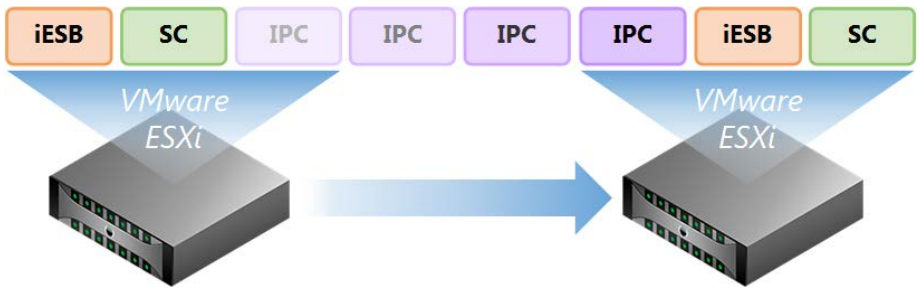
function, for instance, to quickly adapt to changing requirements without putting external, manual processes in place that compensate for a rigid, static system.

- **High Availability Configuration** – NEC's system utilizes a high availability configuration, ensuring there is no single point of failure in the hardware and software subsystems. The combination of high availability with an Active–Active data center configuration ensures NEC can exceed system uptime requirements.
- **Virtualization** – NEC is leveraging hardware virtualization for key server components. This means that software service and applications can be balanced across hardware platforms to ensure maximum system utilization. Additionally, hardware upgrades do not require the full installation and configuration of the software components, just the migration of the virtual process from one host server to another.
- **Report Generation** – Provides predefined and ad hoc reporting capabilities on system utilization and database statistics. All report and audit data is stored in the UDB, providing easy access to management and transaction reports, and offering a complete audit trail necessary to track operational inconsistencies. All system tables are available through a web based GUI and query generator, In addition, NEC's report module uses industry standard Jasper reports, allowing CPD to create standard reports and add them to the system.

4.4 Cloud-Based Virtualization Architecture

The proposed solution benefits from decades of NEC experience in IT-centric solution deployments. Our innovative SOA, system virtualization, and data center design concepts are used to implement Identification and Disaster Recovery (DR) services. Through system virtualization, NEC achieves the high availability, response time, and efficiency required by CPD. Virtualization enhances flexibility and agility by detaching workloads and data from the functional side of physical infrastructure. It also builds a cost-effective business continuity strategy to provide the required Continuity of Operations (COOP) solution. Built upon a production-proven VMware virtualization platform, the Integra-ID 5 architecture is uniquely suited to respond to CPD's disaster recovery needs. Figure 5 depicts the proposed virtualized server configuration.

Figure 5: Virtualized Server Configuration



The NEC solution benefits from the following virtualization features:

- **Improving Utilization and Uptime** – While performing hardware maintenance, the MBIS and Archive applications or services (feature extraction, interfaces) can be automatically relocated or replicated in a virtualized environment without affecting service levels.

  Virtualization can also help improve utilization and uptime by:

  - Providing the ability to migrate applications and services dynamically from one physical server to another so that demand for capacity, throughput, and response times is met without disruption, enabling adherence to service-level agreements.
  - Empowering DR operations by restoring lost services, regardless of the target physical platforms providing the services.

- **Simplifying Operations** – Server virtualization effectively hides hardware details from software, allowing the hardware to be truly interchangeable without affecting the software.

  Virtualization can help simplify operations by:

  - Allowing workload portability across multiple servers, including the ability to "re-host" software (including legacy operating systems that are no longer supported).
  - Streamlining application development and platform certification by certifying on a common virtual interface rather than multiple implementations of physical hardware.
  - Encapsulating complex configurations into a file that is easily replicated and provisioned.

- **Enabling Cost-Effective Scaling** – The management and utilization benefits provided by server virtualization facilitate cost-effective scalability across a common, standards-based infrastructure.

  - Separating the OS and application workload (demand for memory, CPU horsepower, etc.) from the physical server and enabling dynamic scaling through resource sharing and rapid provisioning.
  - Leveraging and optimizing industry-standard hardware, which can help deliver sustained, incremental performance improvements at consistent, competitive prices.

4.5 Continuity of Operations

Even with the best solution and support services, man-made or natural disasters pose a critical risk to the CPD's operations and can lead to the disruption of identification services. To optimally mitigate this risk and fulfill the operational vision, the solution requires geographic distribution, scalability, resiliency, service orientation, and advanced security technologies.

NEC's proposed Integra-ID 5 solution will be constructed in an Active–Active multi-site configuration. This configuration consists of two functionally independent systems that together handle 150% of the matching capacity when both systems are up and running. All CPD systems will have full access to both

Primary and COOP sites, ensuring continuity of operations even if one of the central sites is unavailable. Each site (Primary and COOP) will contain a complete copy of the MBIS database, independent yet fully synchronized with each other and having the ability to meet 75% of the average transaction processing load, should a down system situation arise. Full system transition in the event of a disaster is greatly expedited as both sites have a full copy of the repository data and are configured to operate at average capacity. In testing of NEC Active–Active configurations, NEC will easily meet the one-hour return to operation SLA.

4.6 Data Transition

NEC will provide for the migration, storage, and retrieval of all ANSI/NIST-compliant biometrics and demographics. This transition will employ those processes, procedures, and best practices established for the execution of a very similar data transition exercise now in process with the Los Angeles County Sheriff's Department.

NEC will encode all fingerprint, palmprint, and face biometrics with our "best-of-breed" algorithms, ensuring the highest system accuracy. As part of the migration, NEC will also fully cross-search all migration data to clean up the system database and help resolve outstanding investigations. NEC will further enhance the accuracy of the latent matching database by migrating the existing minutia data, as well as through the use of our proprietary multi-extraction/multi-template matching and Evaluation of Latent Fingerprint Technologies (ELFT) post-search capabilities.

Data migration can also include demographic data capture and scanning of paper forms to ensure that CPD has a complete database. NEC's FBI IQS-certified scanning services provide assurance for a secure facility and a high quality gallery.

4.7 Innovative Workstation Applications

The **Integrated Biometric Workstation 5** (IBW 5), a Microsoft Windows® 10-based PC, serves as the user interface to the Integra-ID 5 MBIS. It provides a single logon point to run all available user functions, including all tenprint, latent, and palmprint functionality. User profile and workstation purpose, however, dictate available functions. Built using the .NET platform, these workstations provide the feature rich user experience of a client-server model. IBW 5's graphical user interface (GUI) is designed for ease of use, enabling examiners to be more productive.

Latent jobs are entered on the **Latent Case Management System (LCMS)** screen, which serves as the user interface to IBW 5's integrated Latent Case Management System. The LCMS incorporates the totality of all latent functionality, enabling latent examiners to enter and store all information associated with latent friction ridge prints, regardless of whether they are saved to the matcher. The LCMS maintains latent information by case number, MBIS search results, and external systems. LCMS interfaces with LIMS and imaging systems, possibly eliminating the need for third party latent case management tools.

NEC's latest **Archive** application features a web-based interface, providing authorized users with quick access to all biometric records and associated documents stored in the Archive repository. The client includes a multitude of searching, viewing, printing, and management features through a flexible, portable thin client application.

The Archive system is a comprehensive and scalable data repository solution for the storage of ANSI/NIST and other ancillary documents. It provides a secure and quick method of storing, retrieving, printing, and managing biometric records associated with identification and investigative processing.

The **Integrated System Monitoring** (ISM) web application provides a central location for administrative maintenance and monitoring of all MBIS functions, including user management, workflow management, system configuration and settings, and reporting functions.

- **User Management** – Provides the ability to establish and maintain user IDs, passwords, and functional authorizations for all MBIS applications; permits the system administrator to selectively set up and manage at least 10 classes of users with configurable permissions per class.
- **Report Generation** – Provides predefined and ad hoc reporting capabilities on system utilization and database statistics. All report and audit data is stored in the UDB, providing easy access to management and transaction reports, and offering a complete audit trail necessary to track operational inconsistencies.
- **System Configuration** – Allows the administrator to add or update the system configuration.
- **Workflow Management** – Supports the system administrator in setting up workflows and configuring TOT associations.
- **Threshold Modification** – Permits the system administrator to maintain threshold scores.
- **System Monitor** – Provides administrators with advanced system monitoring features, including the ability to monitor services at various granular levels across the entire grid.

Consisting of a PC, a 4-4-2 scanner, web camera, and client software, **FastID** is a turnkey solution that provides fingerprint identification with the highest level of speed and accuracy for fast booking, and

release. Built on open architecture, FastID can seamlessly integrate with the Integra-ID 5 MBIS or function as a complete standalone system to provide fingerprint identification services. A self-contained device, FastID can process fingerprint images to perform fast 1:1 verifications and 1:N identifications.

4.8 Approach and Methodology

A formal Scope of Work (SOW) will be delivered to CPD defining work activities, deliverables, timelines, and responsibilities of NEC and CPD respectively based on the proposed Integra-ID 5 MBIS solution. NEC will document the interfaces, database design, workflows and data migration processes, allowing CPD complete transparency into system operations. NEC will also provide an Implementation Plan to accompany the SOW, which will define responsibilities and resources of both parties.

NEC follows a formal, structured implementation and operations methodology. This provides for consistent and repeatable delivery, achieving better results through the application of best practices, and provides visibility that allows the project team and stakeholders to understand the whole implementation process from beginning to end, as well as what to expect throughout the project.

During the discovery period, NEC will work with CPD to identify areas where automation can be implemented to reduce the amount of manual processing. NEC will suggest business process improvements that CPD can implement to improve productivity, auditability, and service to CPD clients.

Our implementation and operations methodology addresses the following areas:

- **Requirements Definition** – Requirements identification, verification, and tracking.
- **Design and Development** – System design and software development.
- **Testing** – Internal as well as Factory Acceptance, System Acceptance, and User Acceptance Testing (FAT, SAT, and UAT).
- **Migration** – Transition and implementation, data conversion.
- **Training** – Planning, preparation, and execution of user and administrative training.
- **Continuity of Operations (COOP)** – Planning and procedure development for disaster recovery (DR) scenarios.
- **Program Management** – Project Management methodology based on the Project Management Institute's Project Management Body of Knowledge (PMBOK) for monitoring, controlling, and executing implementation projects.
- **Operations** – Primary, COOP, and remote based support personnel, call center, and web portal.

Several factors built into our processes contribute to the success of our implementations, including:

- **Client Communication** – Defining checkpoints for interaction with our clients ensures that expectations and requirements are met.
- **Defined Roles and Responsibilities** – This allows team members to understand their individual components of the implementation, what others are doing, and how all components and processes interface.
- **Adherence to Project Schedule** – Ongoing project schedule management activities ensure that the project is meeting deadlines and providing deliverables on time. The Project Management team achieves this by performing activities such as collecting regular progress updates from team members, remaining alert to and managing any changes or risks that may impact schedule, and communicating progress against the schedule to key stakeholders.
- **Flexibility** – Defining processes and procedures while allowing for flexibility allows us to tailor lower level tasks and ensure that our implementations meet our clients' needs.
- **Feedback** – NEC believes the success of a methodology hinges on prioritizing and incorporating stakeholder feedback and improvements by those who use the methodologies on a day-to-day basis.

Our implementation and operations methodologies ensure that the project team evaluates critical factors to ensure a successful implementation, providing our clients with the maximum possible benefits from our solutions.

4.9 Secure and Proven Hosting Service

According to a Forbes Magazine article[3] entitled "Why Cloud-Based Disaster Recovery Makes Sense":

"Today, cloud-based disaster recovery services offer far more intelligent, flexible, and cost-effective solutions for business continuity after catastrophic events. Cloud-based recovery provides many advantages, but chief among them is flexibility. A business can choose to prioritize its most vital applications so that after a disaster, essential operations can be restored quickly—usually within a couple of hours—before other less-essential services are brought back. This not only ensures that a business can be up-and-running soon after an incident, but also saves on cost by allocating the fastest, most powerful, most secure, highest-cost technologies to the core functions of a business. More cost-effective and efficient disaster recovery also means many more businesses can now insure their IT infrastructure against catastrophes, ultimately benefiting consumers by not leading to a lengthy loss of services–even in rare emergencies."

[3] The full article on the advantages of cloud-based DR solutions can be found at: http://www.forbes.com/sites/sungardas/2013/11/26/why-cloud-based-disaster-recovery-makes-sense/.

With over 20 years of experience offering Identity Management as a Service, NEC has established the facilities and processes that will securely host the CPD DR system. NEC has partnered with Quality Technology Services (QTS) to provide proven, successful data center operations. QTS provides co-location services in Sacramento, CA and Irving, TX, where NEC already hosts AFIS services for the Western Identification Network (WIN) and Las Vegas Metropolitan Police Department (LVMPD). The data centers hold 10 industry standard data and security compliances:

- Statement on Standards for Attestation Engagements (SSAE) 16
- Federal Risk and Authorization Management Program (FedRAMP)
- Federal Information Security Management Act (FISMA)
- Health Insurance Portability and Accountability (HIPAA) / Health Information Technology for Economic and Clinical Health (HITECH) Acts.
- Payment Card Industry Data Security Standard (PCI DSS)
- European Union (EU) Safe Harbor Framework
- Sarbanes Oxley Act Section 404
- Service Organization Control (SOC) 1
- Service Organization Control (SOC) 2
- FBI Criminal Justice Information Services (CJIS) Security

Figure 6: QTS Industry Standard Data and Security Compliances

QTS facilities are Tier III equivalent, featuring:

Connectivity

- Carrier-neutral facility providing access to multiple providers for local, fiber, and Internet connectivity.
- Dual entry, dual fiber vault with diverse-path fiber.
- Connectivity provided to customers within the facility via dual self-healing Synchronous Optical Networking (SONET) rings, which enter the building through diverse underground conduit.
- Diverse access and redundancy to all regional carrier hotels and long haul carrier points of presence (POP).

Power

- Total power capacity of 9.0 MW is provided by a dedicated, onsite substation.
- (10) UPS units; N+1 configuration.
- (10) battery strings capable of holding critical load for 25 minutes.
- (4) 2.0 MW diesel generators in an N+1 configuration.

Cooling

- (6) 500-ton water cooled chiller units provide 3,000 tons of cooling capacity for the facility.
- A 24-foot ceiling height designed as cooling reservoir.
- (72) 30-ton Computer Room Air Handler (CRAH) units cool raised floor areas. 13 of the CRAH units are for redundancy at full load.

Security

- Single point of entrance.
- Data center floor and secured areas require card key.
- Two-factor biometric authentication (fingerprint and iris scan).
- Security guards onsite 24 x 7 x 365.
- Active patrol both inside and outside facility.
- Closed circuit video cameras cover the interior and exterior of the building.
- CJIS segregation in place.

5 Emergency Planning

The DR site shall be maintained at a peak level of readiness. In order for the DR emergency implementation to be properly executed, planning and concise communications shall take place so a smooth and successful transition can be achieved. To address readiness, communications, and overall preparedness, an Emergency Response Team (ERT) structure shall be established. NEC will also define a Continuity of Operations (COOP) Plan which details the team members, roles, and responsibilities.

The purpose of the ERT is to:

- Initiate and implement the COOP plan within the pre-defined contractual timeline.
- Institute predefined roles and responsibilities for all contingency types.
- Inform users and CPD of policies and procedures.
- Abide by the published CJIS and CPD security policies.

Table 7 lists the assignees for each ERT function.

Table 7: ERT Function/Assignees

ERT FUNCTION	ASSIGNEE(S)
Disaster Management Board (DMB)	• CPD Personnel • NEC Service and Support Director
Disaster Management Team Coordinator (DMTC)	• NEC Service and Support Manager
NEC Operations and Support Team (OPS)	• NEC Engineering Manager • NEC Sr. Software Engineer
Technical Support Team (Lead) -- (TST)	• NEC Implementation And Support Manager
NEC/CPD Facilities Manager	• DR site

Each ERT group or team will perform the following functions, roles, and responsibilities.

- **Disaster Management Board (DMB)** – This board will consist of the CPD designee, NEC management members, and the NEC Program Manager. The board's role will be to decide whether to transition to the DR site in the case of a severe outage or disaster. Once the decision is made, the Disaster Management team leader will carry out the initiation of that process.
- **Disaster Management Team Coordinator (DMTC)** – In critical downtime situations, or in a natural disaster, the DMTC or designee shall take primary responsibility for all communications to the CPD and Staff Management, NEC Program Manager, NEC Executive Management, NEC Technical Support and Operations teams. This shall also include direct communications with the COOP Operations

Manager and staff. As team coordinator and member of the Disaster Management Board, the DMTC shall consult with the CPD Program Manager, technical and operations groups, COOP technical and CITS management teams, providing all pertinent updates to the Disaster Management Board. All updates from the board will immediately be communicated to all affected members. The DMTC will lead and schedule all meetings; facilitating and presenting all pertinent facts. These meetings will be scheduled as conference calls, except when circumstances dictate in-person meetings.

NEC Operations/Support Team – The NEC Operations team will comprise onsite personnel at CPD and those located at the DR system site location. These engineers will support immediate problem resolution tasks and handle assigned duties of the COOP-ERT switchover.

- **NEC Technical Support Team** – The Technical Support Team will include a four (4) member NEC Secondary Support team headed by the Implementation and Secondary Support Manager. During a critical systems failure, the technical team will be engaged with the immediate situation and will continue until the situation is resolved. This will be a parallel process to the initiation of the COOP itself.
- **Facilities** – The facilities team will assist, as needed. These individuals will alert and address the appropriate CPD/NEC contacts, should any issues arise at the DR site. Their primary responsibility will be to ensure that the facilities are safe and secure for operations.

6 Project Scope

NEC's current MBIS offering, Integra- ID 5, is a turnkey solution designed to meet CPD's precise needs and specifications. Table 8 is an overview of the NEC proposed project scope and deliverables.

Table 8: Project Scope and Deliverables

SCOPE	DELIVERABLES

Integra-ID 5 MBIS and Archive Solution	• iESB Transaction Controller
	• Image Processing Controller
	• Unified Database (with a design capacity as described in "Design Parameters")
	• AIM X^M Match Manager, Data Manager, and Matching Units (to meet "Design Parameters")
	• (5) IBW 5 Tenprint Verification NSW Workstations each with:
	  ▪ Flatbed Scanner
	• (2) IBW 5 Latent Workstations, each with:
	  ▪ Latent Camera
	  ▪ Flatbed Scanner
	• (1) FastID Workstation with:
	  ▪ Crossmatch L500 Fingerprint Capture Device

SCOPE	DELIVERABLES

	• (1) Print Server with:
	  ▪ FBI IQS Appendix F Certified Printer to print all card formats on blank card stock
	  ▪ (3) Color Network Printers to print from any device on the network

Optional Facial Recognition System	• NeoFace Reveal Matching License • NeoFace Reveal Workstation Client Licenses • Pose Correction Licenses
Development of Interfaces	• NIST SSO • ESSO Feature • Livescan Interface • Archive Interface • CCH Interface (to CPD CLEAR system) • Mobile ID Gateway Interface
Data Conversion	• Defined in "Design Parameters"
Workflows Design and Configuration	• (1) Tenprint Workflow (as defined in "Workflow Overview") • (1) Latent Workflow (as defined in "Workflow Overview") • (1) Lights out rapid identification workflow for MID and FastID searches
Project Management Services	• Described in "Project Management"
Implementation Services	• SOW/Requirements document development • Solution configuration • Factory Acceptance Test • Installation and installation testing • Site Acceptance Test
User Training Services	• Tenprint Operator Training for (25) resources • Latent Operator Training for (10) resources • Archive Operator Training for (25) resources • System Administrator Training for (5) resources • FastID Operator Training for (5) resources • User Documentation
1-Year Warranty (for Traditional Upgrade Option only) and Annual Maintenance	• 24 x 7 remote support with a dedicated 8 x 5 onsite engineer

A formal Scope of Work (SOW) will be delivered to CPD defining work activities, deliverables, timelines, and responsibilities of NEC and CPD respectively based on the proposed solution. CPD and NEC acceptance of the SOW is required prior to the start of the implementation activities. Coupled with the SOW will be an Implementation Plan defining responsibilities and resources of both parties.

7 Integra-ID 5 Professional Services

NEC's Professional Services are based on a well-established lifecycle model and our experience in implementing large-scale biometric identification systems. Using proven methodologies to verify total system capability and reliability, NEC conducts extensive integration testing designed to assess all system interactions, including functionalities and applicable interfaces.

7.1 Project Management

To drive delivery of our biometrics solutions, the NEC Project Management Organization (PMO) and its certified Project Management Professionals (PMP) have defined a project lifecycle methodology that closely aligns to the current Project Management Body of Knowledge (PMBOK) standards from the Project Management Institute (PMI). The NEC Project Manager will use best practices that are agile and measurable to ensure a quality implementation and provide a comprehensive interface with CPD throughout the project.

7.2 Training and Documentation

NEC understands that adequate training and documentation are critical to any successful system implementation. To satisfy these requirements, NEC will provide a detailed training plan, comprehensive training sessions to ensure proper operation and management of the proposed system, and user documentation to reinforce classroom and hands-on instruction. For optimal knowledge transfer, we request that CPD ensure its personnel will be available for training at mutually agreed upon training dates and to provide the infrastructure to connect the training workstations to the Integra-ID 5 system.

Class size and duration is also dependent on the number of workstations. In an effort to provide the most efficient, effective, and personalized training, NEC strongly recommends that latent and tenprint training involve a maximum of two latent examiners or tenprint technicians per workstation.

7.2.1 Integra-ID 5 Training Programs

A summary of available Integra-ID 5 training programs is presented below. The programs include training on all functions required to effectively administer, operate, and maintain the proposed system. At the completion of the described training programs, CPD personnel will:

- Demonstrate a working understanding of all functionality the proposed system provides for each program.
- Demonstrate a working understanding of the end-to-end workflow associated with each specific program and area of responsibility.
- Provide operational support to maintain continuity of operations.

7.2.1.1 Tenprint Operator Program

This course provides instruction on the preparation, input, search, verification, and disposition of tenprint cards. Topics covered include fingerprint orientation, MBIS pattern types and referencing, equipment operation, operational procedures, and livescan transaction workflow.

Recommendation: Novice users performing verifications should have experience in the Henry system of pattern definitions and pattern recognition, as well as fingerprint identification and comparisons. This recommendation is not applicable for novice users performing tenprint input only.

7.2.1.2 Latent Operator Program

This course provides instruction on the preparation, input, search, verification, and disposition of latent prints. Topics covered include latent fingerprint core and axis placement, MBIS pattern types and referencing, equipment operation, and operational procedures.

Recommendation: At least one year of experience as a latent examiner in the Henry system of pattern definitions and pattern recognition, as well as latent fingerprint identification and latent comparisons.

7.2.1.3 Archive Operator Program

This course provides instruction on the NIST Archive repository of records containing fingerprint and/or palmprint images, demographic data, and related documents or information. Instruction will also include search and retrieval of records and information, upload of documents, and database maintenance functionality.

7.2.1.4 System Administrator Program

The objective of the System Administrator Program is to train managers, supervisors, and/or system administrators responsible for overseeing day-to-day MBIS operations with respect to workflow management, efficient use of personnel, quality control, and basic tenprint and latent operations. Candidates should be experienced in identification, management, tenprint and latent fingerprint operations, and should have basic fingerprint knowledge. In addition, the supervisors will receive training in system and workstation operations, administration procedures, workflow analysis, and quality control.

7.2.1.5 FastID Operator Program

This course provides hands-on instruction on the FastID workstation. The FastID workstation allows an operator to quickly scan a subject's fingerprints and perform a 1:1 or 1:N search for matching candidates. Instruction will include how to accurately position the finger to capture the best possible fingerprint quality.

7.2.1.6 Optional System Enhancements Training

The following training program will be included depending on which optional system enhancements CPD chooses.

7.2.1.6.1 NeoFace Reveal Operator Program

This course provides hands-on instruction on the NeoFace Reveal workstation. The Reveal workstation allows an operator to capture, enhance, and search facial evidence against a local watch list or mugshot repository for matching candidates. Instruction will include how to use image capture and enhancement features to improve image quality.

7.2.2 User Documentation

As a standard deliverable, NEC will provide an Integra-ID 5 Online Help System that will include guided step-by-step instructions for performing all operational procedures, functions, and commands specific to each application.

7.3 NEC Responsibilities

NEC will designate a Project Manager who will direct NEC's efforts and serve as the primary point of contact for CPD. The responsibilities of the NEC Project Manager may include:

- Maintain consistent and timely project communications.
  - Conduct regular status meetings via telephone or email with the CPD Project Manager as defined within the Communications Plan.
  - Prepare and submit periodic status reports that identify the activities of the previous reporting period, as well as activities planned for the current reporting period, in accordance with the Communications Plan.
  - Coordinate onsite NEC activities with the CPD Project Manager.
- Manage the efforts of NEC staff.
- Coordinate and oversee the installation of all licensed NEC application software.

- Utilize an action item log. The purpose of the log is to identify outstanding issues, provide regular status updates on specific tasks, and assign responsibilities of the parties.
- Measure, evaluate, and report progress against the Project Schedule.
- Monitor the project to ensure that NEC resources are available as scheduled and as identified in the contract.
- Review and administer change control procedures through the CPD Project Manager, commonly referenced as Project Change Orders, issued by the NEC Project Manager.

7.4 CPD Project Responsibilities

CPD will designate a Project Manager who will direct CPD's efforts and serve as the primary point-of-contact to NEC. The responsibilities of the CPD Project Manager may include:

- Maintain consistent and timely project communications with NEC's Project Manager.
- Identify the efforts required of CPD to meet CPD's task requirements and milestones in the SOW and Project Schedule.
- Review the preliminary Project Schedule with NEC's Project Manager and assist NEC in developing a finalized Project Schedule defining the detailed tasks and a schedule of NEC and CPD responsibilities.
- Assist NEC in measuring and evaluating progress against the Project Schedule.
- Monitor the project to ensure that CPD resources are available as scheduled.
- Attend status meetings with NEC's Project Manager.
- Unless otherwise agreed to by the parties, provide information and documentation required by NEC within five (5) business days of NEC's request.
- Liaise and coordinate with other CPD agencies, other governmental agencies, and CPD's vendors and contractors.
- Review and administer change control procedures, hardware and software certification, and all related project tasks required to maintain the implementation schedule.
- Ensure acceptable Standard Change Request and Approval Letters are approved by authorized signature(s).
- Work with NEC personnel to identify and assign action items and bring them to closure.
- Ensure NEC personnel have access to all facilities where the system is to be installed during the project.
- Provide information on the necessary clearances and/or escorts required for access to CPD data or facilities within ten (10) days of contract award.

7.5 Project Plan

NEC is prepared to begin the project immediately following contract completion and receipt of purchase order. Presented below is a sample schedule that includes milestones, action items, and responsibilities of NEC and CPD. The final project schedule will be completed as part of the SOW.

Table 9: Sample Milestone Schedule

TASK GROUP	DURATION	TASKS	DELIVERABLES
Contract Award and Negotiation	8 Weeks	• Site Survey • Pre-planning • Develop Scope of Work and Schedule	• Signed Contract • Purchase Order • Communication Plan • Site Survey Report • Draft Scope of Work and Project Schedule
Network Definition, Workflow Specification, Record Layouts	10 Weeks	• Current Workflow and Process Audit • Current Paperwork Audit • Discuss AFIS Design Concepts • Meetings to Discuss Record Layouts, Network, and Interface Design Details	• Maintenance Plan • Network Definition • Tenprint Workflow Specification • Latent Workflow Specification • NIST Record Layout • Latent Data Field Record Layout • Livescan Interface Specification • Implementation Plan
Electronic Conversion	10 Weeks	• Conversion System Setup	• Load data
Testing, Implementation, Certification, Training	12 Weeks	• Hardware Installation • Software Installation • AFIS Certification Audit • Functional Compliance Check • User Training • System Certification	• Test Plan and Procedures • SW Modifications Resulting from Testing • AFIS Readiness Certification • User Training • User Online Help Documentation • System Functional Certification

7.6 Acceptance Testing

NEC, with CPD's participation, will conduct a Factory Acceptence Test (FAT). The FAT is part of a comprehensive testing program and involves key resources visiting our facilities in Rancho Cordova, CA for a multi-day test to review and evaluate solution functionality against your requirements.

The FAT:

- Provides a mechanism for CPD to become familiar with the software early in the process.
- Ensures system quality by validating functionality prior to shipping.
- Reduces risk by identifying and addressing issues prior to shipping, leading to a smoother implementation.
- Ensures that your expectations are met.

NEC will perform a System Acceptence Test (SAT) onsite at the designated DR site. The SAT involves testing system throughput and accuracy in the user environment and with CPD networks and interfaces. A subset of functional testing may occur at this point depending on the scope and results of the FAT.

7.7 Assumptions

In an effort to ensure an efficient and effective installation process, NEC has made the following assumptions:

- CPD will provide wide area network (WAN) and local area network (LAN) infrastructure and appropriate data lines for efficient AFIS-central site operation as specified in *Section 11, "*Integra-ID 5 MBIS Bandwidth Requirements."
- Tenprint NIST record layout (Types 1, 2, 4, and 15) is required. Inter-AFIS tenprint connectivity capability has been developed based on compliance with national standards (ANSI/NIST, FBI, and IAFIS).
- Latent data field record layout is required.
- CPD is responsible for providing IP addresses as required for implementation into existing network infrastructure.
- Where the DR system is hosted at a CPD facility, CPD shall be responsible for all aspects of site preparation, per NEC-provided specifications.
- Training as defined in Project Scope above.
- CPD is responsible for providing all external system(s) interface specifications to NEC, any required modifications to the external system(s), and testing and troubleshooting the external system(s) with the NEC AFIS interface. NEC is not responsible for delays caused by external system interface providers in meeting the NEC delivery schedules.
- CPD is to ensure personnel are available for training at mutually agreed upon training dates and to provide the infrastructure to connect the training workstations to the Integra-ID 5 system.

8 Warranty and Maintenance Services for the Traditional MBIS Solution[4]

NEC has maintained AFIS installations in North America since 1983 and understands the mission-critical role provided by biometric identification systems. This is especially true of agencies that rely on immediate identification as part of their booking process. Before expiration of the one-year warranty period (where applicable), NEC will provide CPD with a comprehensive Maintenance Agreement designed to keep all system components, both hardware and software, in proper working order over the life of the system.

NEC will work with CPD to assist in determining the level of preventive maintenance required, ensuring maximum performance of the Integra-ID 5 system. NEC maintenance plans are very flexible and designed to meet the unique needs of AFIS managers.

During the one-year warranty period, NEC will provide the same level of coverage that AFIS receives today. NEC will provide 24 x 7 coverage for the proposed Integra-ID 5 system and an 8 x 5 onsite engineer during the warranty period. The one-year warranty (where applicable) will include advanced remote diagnostics and maintenance and back-up support from regional AFIS sites as well as the NEC Biometric Operations Support Services (BOSS) center based in our headquarters office in Rancho Cordova, CA.

8.1 Maintenance Features

- VPN/Remote Support is standard and will be used to provide first- and second-level support, as required.
- Local spare parts inventory of critical components if NEC is responsible for hardware maintenance.
- Staff of management and engineers who have years of expertise and experience in large- and small-scale MBIS support and maintenance.
- NEC will support all MBIS hardware and software installed.

[4] All references to hardware maintenance and spare parts assume that NEC will supply all hardware and software components and provide the maintenance. If CPD chooses to supply any hardware or software components, NEC will not be responsible for the warranty for these items unless all specifications that NEC prescribes are met. NEC will apply additional costs for warranty services to cover any components that are not supplied by NEC. This proposal does not include pricing for additional warranty costs to cover non-NEC provided components.

9 Maintenance Services for the IDaaS Solution

If CPD selects the IDaaS solution, there will be no warranty. NEC will provide 24 x 7 coverage for the Integra-ID 5 system and an 8 x 5 onsite engineer upon system acceptance. The 24x7 support includes advanced remote diagnostics and maintenance and back-up support from regional MBIS sites as well as the NEC National Support Center based in our headquarters office in Rancho Cordova, CA.

9.1 Maintenance Features

- VPN/Remote Support is standard and will be used to provide first- and second-level support, as required.
- Local spare parts inventory of critical components if NEC is responsible for hardware maintenance.
- Staff of management and engineers who have years of expertise and experience in large- and small-scale MBIS support and maintenance.
- NEC will support all MBIS hardware and software provided and installed by NEC.

10 Budgetary Pricing

The budgetary pricing is based on two solution delivery models for an upgrade of the existing system: *Traditional* purchase and *Identity as a Service (IDaaS)*.

The *Traditional* option provides CPD with an outright purchase of the new Integra-ID MBIS within a two-phased approach that includes an upgrade of the Archive and MBIS services, providing a Primary and COOP solution in Active-Active configuration hosted at two CPD data centers.

The *IDaaS* option provides CPD with a system upgrade in a single phase, whereby NEC retains ownership of the hardware and software, and provides CPD with MBIS as a service for an annual fee. The IDaaS solution is hosted at a CPD (Primary Site) and an NEC FBI CJIS-audited facility (DR Site), in an Active-Active configuration.

10.1 Traditional Upgrade Pricing

Table 10: CPD Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (Single Phase)

Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (Single Phase)
MBIS Backend Servers and Peripherals for Primary and DR Sites
(5) IBW Tenprint/Verify NSW Workstations with Flatbed Scanners (2) IBW Latent Workstations with Flatbed Scanners and Latent Cameras for Remote Agency Access (1) FastID Workstation with 4-4-2 Fingerprint Capture Device
NEC Software Licenses including: • AIM X^M Matching Subsystem License • iESB Core Module (Finger & Palm) – Enterprise • IPC Core • System Administrator and Reporting Software • Archive Application • (5) NEC IBW 5 Tenprint Software Licenses • (2) NEC IBW 5 Latent Software Licenses for Remote Agency Access • (1) NEC FastID Client Software License
Interface to FBI, CCH, Mobile ID and Livescan
Database Synchronization between Active – Active Systems
Third-Party Software Licenses including Oracle Enterprise Edition

Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (Single Phase)
Professional Services
Requirements and Process Identification Analysis
Program Management
Data Conversion and Migration
Integration and Installation
Training Services: • Tenprint Operator Training for (25) Persons • Latent Operator Training for (10) Persons • Archive Operator Training for (25) Persons • System Administrator Training for (5) Persons • FastID Operator Training for (5) Persons
Documentation
1-Year Warranty

Integra-ID 5 MBIS Active-Active DR Solution Purchase Price	**$4,652,700**
Annual 24 x 7 Maintenance with 8 x 5 Onsite Support	**$538,800**

Table 11a: CPD Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 1: Latent Conversion and Migration

Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 1: Latent Conversion and Migration
Professional Services
Requirements and Process Identification Analysis
Program Management
Data Conversion and Migration
Integration, and Configuration of Latent Agency Model

Integra-ID 5 MBIS Active-Active DR Solution Purchase Price	**$114,500**

Note: Phase 1 consists of the services listed in Tables 11a and 11b and may not be ordered separately.

Table 11b: CPD Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 1: Archive Upgrade

Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 1: Archive Upgrade
MBIS Backend Servers and Peripherals for Primary and DR Sites
NEC Software Licenses including: • Archive Application
Database Synchronization between Active – Active Systems
Third-Party Software Licenses including Oracle Enterprise Edition

Professional Services
Requirements and Process Identification Analysis
Program Management
Data Conversion and Migration
Integration and Installation
Documentation
1-Year Warranty

Integra-ID 5 MBIS Active-Active DR Solution Purchase Price	**$2,922,700**
Annual 24 x 7 Maintenance with 8 x 5 Onsite Support	**$212,300**

Note: Phase 1 consists of the services listed in Tables 11a and 11b and may not be ordered separately.

Table 12: CPD Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 2: Tenprint Upgrade

Integra-ID 5 MBIS Solution Budgetary Pricing – Traditional Upgrade (2-Phase) Phase 2: Tenprint Upgrade
MBIS Backend Servers and Peripherals for Primary and DR Sites
(5) IBW Tenprint/Verify NSW Workstations with Flatbed Scanners (2) IBW Latent Workstations with Flatbed Scanners and Latent Cameras for Remote Agency Access (1) FastID Workstation with 4-4-2 Fingerprint Capture Device
NEC Software Licenses including: • AIM X^M Matching Subsystem License • iESB Core Module (Finger & Palm) – Enterprise • IPC Core • (5) NEC IBW 5 Tenprint Software Licenses • (2) NEC IBW 5 Latent Software Licenses for Remote Agency Access • (1) NEC FastID Client Software License
Interface to FBI, CCH, Mobile ID and Livescan

Professional Services
Requirements and Process Identification Analysis
Program Management
Data Conversion and Migration
Integration and Installation
Training Services: • Tenprint Operator Training for (25) Persons • Archive Operator Training for (25) Persons • System Administrator Training for (5) Persons • FastID Operator Training for (5) Persons
Documentation
1-Year Warranty

Integra-ID 5 MBIS Active-Active DR Solution Purchase Price	**$1,866,300**
Annual 24 x 7 Maintenance with 8 x 5 Onsite Support	**$326,500**

Table 13: Optional CPD NeoFace Reveal Facial Recognition System Budgetary Pricing – Traditional Upgrade

Optional NeoFace Reveal Facial Recognition System Budgetary Pricing – Traditional Upgrade
NEC Software Licenses including: • NeoFace Matching License for 5.4 Million Subjects • (5) NeoFace Reveal Workstation Client Licenses

Professional Services
Requirements and Process Identification Analysis
Program Management
Data Conversion and Migration
Integration and Installation
Training Services • Reveal Operator Training for (5) Persons
Documentation
1-Year Warranty

NeoFace Reveal Solution Purchase Price	**$594,600**
Annual 24 x 7 Maintenance with 8 x 5 Onsite Support	**$53,700**

10.2 IDaaS Upgrade Option

Table 14: CPD Integra-ID 5 MBIS Solution Budgetary Pricing – IDaaS Upgrade

INTEGRA-ID 5 MBIS SOLUTION BUDGETARY PRICING – IDAAS	
Service Fee: 7 Year Contract Term	**$1,494,000 Annually**

Table 15: CPD Integra-ID 5 MBIS with NeoFace Reveal Solution Budgetary Pricing – IDaaS Upgrade

INTEGRA-ID 5 MBIS WITH NEOFACE REVEAL SOLUTION BUDGETARY PRICING - IDAAS	
Service Fee: 7 Year Contract Term	**$1,638,000 Annually**

10.3 Conditions

This is a quotation on the goods named, subject to the conditions noted below:

The following terms and conditions apply to both the Solution Purchase and IDaaS options:

- Quote is valid for one hundred eighty (180) days after submission.
- This quotation is for budgetary purposes only and does not represent a final offer or price.
- The above pricing does not include networking fees.
- The price does not include applicable State/Federal taxes. Any taxes shall be in addition to the prices listed, and, if required to be collected or paid by NEC, shall be paid by Customer to NEC. Unless specified otherwise in this Quote, Customer acknowledges that this purchase constitutes a bundled transaction or mixed transaction for sales tax purposes, and, as such, is fully subject to sales tax. If claiming a sales tax or similar exemption, Customer must provide NEC with valid tax exemption certificates prior to delivery.

The following terms and conditions apply to the Traditional Upgrade only:

- MBIS is agency-owned.
- Includes 1-year warranty.
- Primary and DR system is located at CPD sites
- For the 2-Phase upgrade option, Phase 2 is to commence within 12 months of the completion of Phase 1.

The following terms and conditions apply to the IDaaS Solution only:

- MBIS is NEC-owned and provided to CPD as a service.
- Annual Service Fee commences upon System Acceptance with no warranty period.
- Primary system located at CPD and DR system is located at NEC.
- Wide Area Network connection between CPD facilities and NEC's Rancho Cordova facility provided by CPD.

11 Integra-ID 5 MBIS Bandwidth Requirements

The Integra-ID 5 MBIS and Archive solution requires minimum bandwidth and network infrastructure to accommodate system demands. These requirements are described in the following sections.

11.1 Bandwidth Requirements

MBIS applications utilize bandwidth on an on-demand basis. Normal, idle operations require minimal bandwidth for connectivity checks to the central server, job queue updates, etc. Usage bandwidth is characterized by peaks of activity dependent upon the operation (scanning a tenprint card, viewing a list of candidates, etc.). Additional factors include fingerprint image resolution (500 ppi vs. 1000 ppi) and search throughput design.

Table 16 and Table 17 list dedicated bandwidth allocations required per device. These requirements indicate the minimum necessary bandwidths for a productive user experience. Additional bandwidth will enhance performance accordingly.

Table 16: Bandwidth Requirements – Remote Sites

REMOTE PRODUCT TYPE	500 PPI	1000 PPI
Biometric Workstation (Latent, Tenprint, Palmprint, Archive*)	1.5 Mb	4 Mb
Integra-ID 5 (MBIS to MBIS connection) to ISP	1.5 Mb	4 Mb

Table 17: Bandwidth Requirements – Central Site

CENTRAL SITE PRODUCT TYPE	500 PPI	1000 PPI
Biometric Workstation (Latent, Tenprint, Palmprint)	100 Mb Fast Ethernet	1 Gb Ethernet
Inter-MBIS Server Communication†	1 Gb Ethernet	1 Gb Ethernet
Central Site Remote Connection (inbound/outbound traffic to remotes‡) to Disaster Recovery System	10 Mb	25 Mb

* *Archive usage is based upon average document sizes of 700 KB.*

† *Inter-MBIS server networking is provided by NEC; all other networking costs are the responsibility of the customer.*

‡ *Up to 12 workstations are supported for the 10 MB (500 ppi)/25 MB (1000 ppi). If the device count exceeds that, the line speed needs to be increased in proportion with the number of workstations.*

11.2 CPD Network Requirements

CPD agrees and acknowledges that it is incumbent upon them to provide the necessary network infrastructure. At CPD's request and at an additional cost, NEC can provide network analysis services prior to the deployment of the Integra-ID 5 AFIS and Archive DR solution. This analysis is helpful in accounting for the impact of additional network traffic, such as livescan submissions or VOIP, and determining network needs and health.

12 Additional Terms and Assumptions

This proposal and quote is valid for one-hundred eighty (180) days from the date of submission. It includes only those goods and services it specifically references, subject to the following terms and conditions.

Additional engineering effort beyond the scope of the standard product will be quoted at a firm fixed price based on our current service rates in effect at the time of the change, plus any related travel or administrative expenses.

At any time before Acceptance, NEC reserves the right to add, delete, and/or substitute items of Equipment and Software comprising the Integra-ID 5 MBIS, Archive, and Workstations, provided that such substitution will not adversely affect system functionality and performance.

NEC reserves the right to substitute hardware of equal value with equal or better capability, based upon market availability. If, however, such equipment is unavailable, NEC will make its best effort to provide a suitable replacement.

Purchase orders should be sent to NEC by facsimile or United States mail. Please direct all order correspondence, including Purchase Order, to:

Raffie Beroukhim
NEC Corporation of America
10850 Gold Center Drive, Suite 200
Rancho Cordova, CA 95670
Tel: (800) 777-2347, (916) 463-7000
Fax: (916) 463-7041
Email: raffie.beroukhim@necam.com

NEC appreciates the opportunity to present this proposal. Product purchase will be governed by the NEC Managed Hosting Services Agreement or other such agreed-upon terms and conditions, which are dependent upon the options selected by CPD. A sample copy of the Managed Hosting Services Agreement is attached for your convenience in "Exhibit A – Managed Hosting Services Agreement.

NEC respectfully requests the opportunity to further negotiate final terms relating to these agreements. Firm delivery schedules will be provided and development will commence after CPD and NEC have signed the finalized Scope of Work.

Prices are exclusive of any and all state or local taxes, or other fees or levies. No subsequent Purchase Order can override such terms. Nothing additional shall be binding upon NEC unless a subsequent agreement is signed by both parties.

13 Exhibit A – Managed Hosting Services Agreement

A sample copy of NEC's Managed Hosting Services Agreement begins on the following page.

Managed Hosting Services Agreement
by and between

{INSERT CUSTOMER NAME}

and

NEC Corporation of America

For

{INSERT SOLUTION NAME}

{INSERT EFFECTIVE DATE}

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This Agreement is entered into this _____ day of _____, 2014 (the "Effective Date") by and between the NEC Corporation of America, a Nevada corporation, having its principal place of business at 6535 North State Highway 161, Irving, TX 75039 (hereinafter "NEC") and _____ having its principal place of business at _____ (hereinafter Customer") (hereinafter collectively also the "parties" or individually a "party").

In consideration of the mutual promises, covenants and conditions set forth herein and for good and valuable consideration, NEC and Customer agree as follows:

1 APPLICABLE DOCUMENTS

1.1 Interpretation

The provisions of this Agreement (hereinafter "Agreement"), along with Exhibits A, B, C, D, E, F, G, including all attachments and schedules, if applicable collectively form and throughout and hereinafter are referred to as the "Agreement". In the event of any conflict, ambiguity or inconsistency in the definition or interpretation of any word, obligation, deliverable, service or otherwise, between this Agreement and the Exhibits, such conflict or inconsistency shall be resolved by giving precedence first to the Agreement, and then to the Exhibits, according to the following order of precedence:

- Exhibit A Statement of Work
- Exhibit B Pricing and Payment Schedule
- Exhibit C Project Schedule
- Exhibit D Service Level Agreement
- Exhibit E Acceptance Test Plan
- Exhibit F Final Acceptance Form
- Exhibit G Software License Agreement

1.2 Entire Agreement

This Agreement constitutes the complete and exclusive Agreement between the parties and supersedes all previous agreements, whether written or oral, between the parties relating to the subject matter of this Agreement. In the event of any conflict or inconsistency between this Agreement and the Exhibits, such conflict or inconsistency shall be resolved by giving precedence first to this Agreement, and then to the Exhibits. This Agreement may only be modified in writing, by a signed amendment**.**

1.3 Definitions

The terms and phrases in this Section 1.3, whether singular or plural, shall have the particular meanings set forth below whenever such terms are used in this Agreement.

1.3.1 ADDITIONAL PRODUCTS

The term "Additional Product(s)" shall mean any item of additional hardware, Software, customizations, interfaces, including additional workstations, and related Documentation, that NEC may provide pursuant to a Change Order following Final Acceptance, upon Customer's

request. Once mutually agreed upon, such Additional Products shall become part of, and be deemed, part of the Solution for the purpose of this Agreement.

1.3.2 RESERVED

1.3.3 BUSINESS DAY

The term “Business Day” shall mean any day of eight (8) working hours from 8:00 a.m. to 5:00 p.m. Pacific Time (PT), Monday through Friday, excluding NEC observed holidays.

1.3.4 CHANGE NOTICE

The term “Change Notice” shall mean a contract change, or other change in this Agreement, that has been adopted by the parties in accordance with Section 3 (Changes Notices).

1.3.5 CONFIDENTIAL INFORMATION

The term “Confidential Information” shall have the meaning specified in Section 13 (Confidentiality).

1.3.6 CUSTOMER DATA

The term “Customer Data” shall mean the customer provided data utilized by the Solution.

1.3.7 RESERVED

1.3.8 DATA MIGRATION

The term “Data Migration” shall mean migration of Customer Data as part of System Implementation Services, as further specified in Section 1.4 (Definitions) of Exhibit A (Statement of Work).

1.3.9 DAY

The term “Day” shall mean calendar day and not Business Day.

1.3.10 DEFICIENCY; DEFICIENCIES

The terms “Deficiency” and “Deficiencies”, whether singular or plural, shall have the meaning specified in Exhibit D (Service Level Agreement).

1.3.11 DELIVERABLE; deliverable

The terms “Deliverable” and “deliverable” shall mean items provided or to be provided by NEC under this Agreement, including Deliverable(s) in Exhibit A (Statement of Work).

1.3.12 DISPUTE RESOLUTION PROCEDURE

The term “Dispute Resolution Procedure” shall mean and refer to the provisions of Section 17 (Applicable Laws and Dispute Resolution Procedure) describing the procedure for resolving the disputes arising under or with respect to this Agreement.

1.3.13 DOCUMENTATION

The term “Documentation” shall mean any and all written and electronic materials provided by NEC under this Agreement, including, but not limited to, documentation relating to software and hardware specifications and functions, training course materials, specifications including System requirements, technical manuals, handbooks, flow charts, technical information, reference materials, user manuals, operating manuals, quick reference guides, FAQs, and all other instructions and reference materials relating to the capabilities, operation, installation and use of the Solution and/or applicable components.

1.3.14 DUE DATE

The term “Due Date” shall mean the due date for the completion of any Deliverable in Exhibit C (Project Schedule).

1.3.15 RESERVED

1.3.16 FINAL ACCEPTANCE DATE

The term “Final Acceptance Date” shall mean the date of Final Acceptance.

1.3.17 FIXED HOURLY RATE

The term “Fixed Hourly Rate” shall mean the hourly rate, specified in Exhibit B (Pricing and Payment Schedule), for Professional Services including Consulting Services and programming modifications, as applicable, that NEC may provide, following Final Acceptance, upon Customer’s request in the form of Optional Work.

1.3.18 RESERVED

1.3.19 FINAL ACCEPTANCE

The term “Final Acceptance” shall mean Customer’s written acceptance of any deliverables, and Services or other work, including System Acceptance Testing, provided by NEC to Customer, pursuant to the mutually agreed upon Acceptance Test Plan (Exhibit E).

1.3.20 OPTIONAL WORK

The term “Optional Work” shall mean application modifications, Professional Services and/or Additional Products that may be provided by NEC to Customer, upon Customer’s request in accordance with Section 4.4 (Optional Work).

1.3.21 PRICING AND PAYMENT SCHEDULE

The term “Pricing and Payment Schedule” shall mean prices, rates and other fees for Deliverables identified as Exhibit B (Pricing and Payment Schedule).

1.3.22 PRODUCTIVE USE

The term “Productive Use” shall mean the actual use of the Solution in the Customer’s operational environment for the performance of Customer’s operations.

1.3.23 PROFESSIONAL SERVICES

The term “Professional Services” shall mean professional and/or consulting services that NEC may provide upon Customer’s request in accordance with Section 4.4 (Optional Work).

1.3.24 PROJECT MANAGER(S)

The term “Project Manager(s)” shall have the meaning specified in Section 2.1.1 (Project Manager(s)).

1.3.25 PROJECT SCHEDULE

The term “Project Schedule” shall mean the agreed upon timeline for System Implementation and Deliverables specified in Exhibit A (Statement of Work).

1.3.26 SERVICES

The term “Services” shall mean any services provided by NEC under this Agreement including hosting, management, maintenance and support of the Solution.

1.3.27 SERVICE FEE(S)

The term “Service Fee(s)” shall mean the Service Fees to be paid by Customer to NEC for Services performed commencing upon Final Acceptance in accordance with the terms of this Agreement, including Exhibit B (Pricing and Payment Schedule).

1.3.28 SOFTWARE

The term “Software” shall mean the software provided by NEC as part of the Solution, including operating and database software.

1.3.29 SOLUTION

The term “Solution” shall mean the system and services contemplated by this Agreement and as set forth in the Statement of Work.

1.3.30 STATEMENT OF WORK; SOW

The terms “Statement of Work” and “SOW” shall mean the work to be provided by NEC pursuant to this Agreement identified in terms of Services and Deliverables in Exhibit A (Statement of Work).

1.3.31 SYSTEM

The term “System” shall mean the architectural and operational environment for the Solution provided by NEC or Customer meeting the requirements of this Agreement and the Statement of Work and related Documentation, including Software and System Hardware.

1.3.32 SYSTEM ACCEPTANCE TEST; SAT

The terms “System Acceptance Test” and “SAT” shall mean shall mean the System test conducted by NEC under the Statement of Work and Acceptance Test Plan.

1.3.33 RESERVED

1.3.34 RESERVED

1.3.35 SYSTEM HARDWARE

The term “System Hardware” shall mean the hardware and networking equipment, and related Documentation, provided by NEC as part of the Solution, including baseline hardware, hardware upgrades and additional hardware.

1.3.36 SYSTEM IMPLEMENTATION

The term “System Implementation” shall mean system setup, system and system software installation, Data Migration, System Acceptance Tests, training and other work to be provided by NEC under this Agreement.

1.3.37 THIRD PARTY SOFTWARE

The term “Third Party Software” shall mean any software of third parties provided by NEC to Customer under this Agreement as part of the Solution.

1.3.38 TRAINING

The term “Training” shall mean training relating to the Solution to be provided by NEC pursuant to this Agreement, including initial System Training and additional Training that Customer may request as part of Professional Services.

1.3.39 RESERVED

2 ADMINISTRATION OF AGREEMENT

2.1 Key Personnel

2.1.1 Project Manager(s)

NEC and Customer each shall designate a Project Manager ("Project Manager(s)") who will be responsible for ensuring that the technical, business and operational standards and requirements of this Agreement are met.

2.2 Personnel

Customer is responsible for maintaining a list of Customer employees authorized to request changes, and providing such list to NEC as necessary. Customer maintains sole responsibility for informing NEC of Customer employee status changes.

3 CHANGES NOTICES

3.1 General

No representative of either NEC or Customer, including those named in this Agreement, is authorized to make any changes to the Solution, except through the procedures set forth in this Section 3.

3.2 Change Notices

(a) When the Project Manager, or an authorized representative for both parties agree on any change that has no material financial impact (i) on the cost , (ii) scope and/or specifications, each party shall communicate the agreement to such change in writing, and the Statement of Work shall be deemed amended effective as of the date of such Change Notice.

(b) If changes in design, workmanship, or material are of such a nature as to impact the cost of any part of the work or Services; NEC will use commercially reasonable efforts to evaluate the implications of such change, including, without limitation, the cost and schedule. The Project Manager, or an authorized representative for both parties shall agree upon a reasonable and proper allowance for the adjustment in the cost of the Services to be performed under this Agreement.

(c) Changes made in accordance with the foregoing procedure shall be immediately effective upon execution by each of NEC's and Customer's authorized representative and shall constitute amendments to such Statement of Work and this Agreement.

3.3 Facsimile and Electronic Signatures

NEC and Customer hereby agree to regard facsimile representations of original signatures and electronic signatures of authorized officials of each party, as legally sufficient, and that the parties need not follow up facsimile transmissions and electronic signatures of such documents by subsequent transmissions of "original" versions of such documents.

4 SCOPE OF WORK

In exchange for Customer's payment to NEC of the applicable Service Fees invoiced by NEC and arising under this Agreement, NEC shall (a) provide Services, Deliverables and Optional Work set forth in this Agreement, in accordance with Exhibit A (Statement of Work); and (b) grant to Customer the License to use the Software provided by NEC under the Agreement, as specified in Section 8 (Ownership and License).

4.1 System Components

NEC will provide the License for Customer to use the Solution in order to meet the system requirements as such may be revised during the term of the Agreement, all in accordance with the provisions of Section 8 (Ownership and License) and the Agreement, pursuant to and as set forth in SOW and other applicable Exhibits.

4.2 System Implementation

NEC shall provide System Implementation Services, including but not limited to System setup, installation, testing, training, baseline customizations and/or baseline interfaces, and other applicable Services, through Final Acceptance of the System, as required for the implementation of the Solution, as specified in the Statement of Work and elsewhere in the Agreement.

4.3 Maintenance

NEC shall, during the term of this Agreement, provide to Customer maintenance and support services, in exchange for Customer's payment of the applicable Service Fees as set forth in Exhibit B (Pricing and Payment Schedule). Service Fees will be paid by Customer to NEC for maintenance periods commencing upon Final Acceptance.

4.4 Optional Work

Upon the written request of Customer, and upon mutual agreement, NEC may provide to Customer Optional Work, including software modifications, Professional Services and/or additional workstations or other Additional Products.

NEC shall provide to Customer a proposed quotation, including the Fixed Hourly Rate, if applicable. NEC's quotation shall be valid for at least ninety (90) days, or a timeframe as NEC may specify at the time of quote submission. Upon Customer's acceptance of the quote and completion of the Optional Work by NEC, this Agreement shall be updated accordingly to add such items of Optional Work by Change Notice executed in accordance with Section 3 (Changes Notices).

4.5 Standard of Services

NEC's Services required by this Agreement shall during the term of the Agreement conform to reasonable commercial standards as they exist in NEC's profession or field of practice.

4.6 Customer's Acts or Omissions

Customer agrees to provide all information, access and full good faith cooperation reasonably necessary for NEC to deliver and provide the Services under this Agreement. In the event Customer's acts or omission causes a delay, impact or failure in NEC's ability to deliver the Services, NEC shall bear no liability whatsoever or otherwise be responsible for such delay, impact or failure.

5 TERM

5.1 Initial Term

The term of this Agreement shall commence upon the Effective Date and shall expire _____ years following the Final Acceptance of the Solution, unless sooner terminated or extended, as provided in this Agreement (hereinafter "Initial Term").

5.2 Extended Term

At the end of the Initial Term, Customer may extend this Agreement for _____ (hereinafter "Extended Term"). Customer may only exercise its extension option by notifying NEC in writing of its election to extend the Agreement pursuant to this Section 5 no later than twelve (12) months prior to the expiration of the Initial Term. NEC reserves the right to adjust the Service Fees for changes in the scope of Services at any point after the commencement of the Initial Term or for changes in NEC's standard Service rates at the beginning of any Extended Term ("Service Fee Adjustment"), (collectively the "Extended Term and "Initial Term" shall be considered the Term).

6 TERMINATION

6.1 TERMINATION

Either party has the right to terminate this Agreement if the other party materially breaches this Agreement. However, written notice of material breach of this Agreement must first be provided to other party, and the other party shall have the opportunity to cure such breach within thirty (30) days from the date of receipt of the written notice. There is no termination if the breach is cured within the period, or such a cure is impractical within the period, or if the parties otherwise agree not to terminate.

In addition, NEC reserves the right, at NEC's option, to terminate or suspend performance under this Agreement and discontinue providing Services to Customer in the event:

(a) Customer fails to pay the Service Fees when due and such failure shall remain uncured for a period of fifteen (15) days after Customer's receipt of written notice of termination from NEC;

(b) Customer materially or repeatedly fails to cure its breach (other than a payment breach addressed in (a) above) of any of these terms or conditions in this Agreement within ten (10) days after the written notice provided by NEC;

(c) Customer violates any law, rule, regulation or policy of any governmental authority in its use of the Solution;

(d) Customer misuse of the Solution in breach of License limitations;

(e) Customer makes a material misrepresentation to NEC in connection with the ordering or delivery of the Services;

(f) Customer engages in any fraudulent use of the Solution;

(g) Customer files bankruptcy or fails to discharge an involuntary petition within sixty (60) days.

Customer understands that pricing under this Agreement, including any discounts, is based upon Customer's commitment to purchase the Services for the entire Term. During the Term,

Customer may request an adjustment in the size, capacity and/or scope of the number of hosted components, the acceptance of which shall be accompanied by a commensurate adjustment in the Service Fees and shall be in accordance with Section 3 (Changes Notices).

6.2 Payment in the event of early termination

In the event of any early termination as specified in Section 6.1 (Termination), NEC shall be entitled to receive, and Customer agrees to pay, any unpaid balance for the then-current Term. Customer's obligation to pay for the entire Term of the Services Fees is absolute and unconditional and is not subject to reduction or setoff.

7 INVOICES AND PAYMENTS

7.1 Invoices

NEC shall invoice Customer in accordance with Exhibit B (Pricing and Payment Schedule) (i) for Services Fees monthly in arrears for maintenance periods commencing upon Final Acceptance, and (iii) for the actual price expended by NEC for any Optional Work, if applicable.

("Purchase Order") means a Customer-issued document used for ordering Optional Work under this Agreement. All Purchase Orders are subject to review and acceptance by an authorized representative of NEC. No preprinted Purchase Order terms shall be binding upon NEC, unless otherwise expressly agreed to in writing by an authorized representative of NEC.

7.2 Delivery of Software

NEC shall provide any Software or Documentation under this Agreement, (i) in an electronic format (e.g., via electronic mail or internet download) or (ii) personally by NEC staff who shall load such Software and Documentation.

Any Software and Documentation that is provided or delivered by NEC to Customer in a tangible format shall be F.O.B. Destination.

7.3 Taxes

Any taxes shall be in addition to the Service Fees listed and if required to be collected or paid by NEC shall be paid by Customer to NEC. If claiming a sales tax or similar exemption, Customer must provide NEC with valid tax exemption certificates.

7.4 Payments

The initial payment date for Service Fees hereunder shall be the first day of the month following Final Acceptance. Thereafter, Customer shall make payment of the Service Fees or any Service Fee Adjustment within thirty (30) days of receipt of an invoice from NEC.

If Customer fails to pay any portion of any invoice by the due date, NEC may charge Customer interest equal to the lesser of 1.5% per month [eighteen percent (18%) per annum] or the maximum rate allowed by law on such undisputed portion.

8 OWNERSHIP AND LICENSE

8.1 Ownership

8.1.1 Software

NEC shall own and retains all right, title and interest, worldwide, in any and all proprietary System Hardware, Software, including related Documentation, technology, ideas, methods, processes, know-how, and related Documentation ("NEC Licensed Technology"). NEC Licensed Technology is and shall remain the property of NEC or any rightful third party owner, with which all proprietary rights shall reside, and which shall be subject to the terms of the License granted pursuant to Section 8.2 (License) below. The NEC Licensed Technology is the confidential and copyrighted property of NEC, or its licensors, and all rights therein not expressly granted to Customer are reserved to NEC, or its licensors. Upon termination or expiration of this Agreement, NEC shall remove all copies or embodiments of NEC Technology from Customer's network and Customer shall immediately cease use of such NEC Licensed Technology.

8.1.2 Customer Data

All Customer Data is and shall remain the property of Customer. NEC safeguards the security of such data with industry standard physical, electronic, and managerial procedures. The field of information security is one in which the risks and threats change daily, although NEC strives to keep Customer Data secure, no security measures are absolute. NEC cannot anticipate each and every threat which can develop in the future and, as such, cannot guarantee that Customer Data will never be disclosed, for example, as the result of unauthorized acts by third parties. NEC will promptly notify Customer if it's determined that NEC experienced a security breach, and that there is a reasonable likely risk of data theft, or other security breach as otherwise required by law.

8.2 LICENSE

8.2.1 License Grant

Subject to the applicable provisions and limitations of this Agreement, including but not limited to, the Software License Agreement (Exhibit G), the Statement of Work and Section 8 (Ownership and License), NEC hereby grants to Customer a license to use the Software, Third Party Software, including any related Documentation (hereinafter "License"), during the Term. Customer shall also comply with any and all third-party technology licenses utilized in the provisioning of the Services. Additionally, Customer shall use the Solution in strict accordance with applicable, laws, rules, and regulations. Any violation thereof is deemed a material breach of this Agreement.

9 ACCEPTANCE

9.1 SYSTEM ACCEPTANCE TESTING

The Acceptance Test Plan shall be prepared and agreed upon by both parties and is the reflection of the mutually agreed upon Statement of Work. Final Acceptance shall occur upon the date of successful completion of System Acceptance Testing as specified below. Final Acceptance shall be final and not subject to any revocation by Customer.

The System Acceptance Test shall be conducted expeditiously. Within three (3) days of NEC's written notice that the System has been installed and is ready for System Acceptance Testing, NEC's personnel shall begin to conduct System Acceptance Testing. Customer shall complete the System Acceptance Testing within the timeframe allowed in the Acceptance Test Plan. The System shall be accepted on the date that the Acceptance Test Plan is successfully completed or parties agree to acceptance with a list of deficiencies (punch list) or when the System is in Productive Use by the Customer as provided below, whichever occurs first (the "Final Acceptance Date"). If the System Acceptance Testing discloses operational Deficiencies in the System, the parties shall prepare and mutually agree to a detailed list of all such Deficiencies. NEC shall correct all Deficiencies placed on the list of Deficiencies according to a mutually agreed timeframe. In the event that the System fails to pass System Acceptance Testing as described in the Acceptance Test Plan, Customer shall repeat testing of the deficient items once NEC has made the necessary changes and agree to accept the System either without Deficiency or with a mutually agreed Deficiency list and correction timeframe. Such time period to correct Deficiencies may be extended by mutual consent.

PRODUCTIVE USE

The System shall achieve Go-Live and shall be ready for Productive Use when Customer, approves in writing Deliverables within Exhibit A (Statement of Work). In the event any System Hardware or Software delivered after the date of execution of this Agreement is put into Productive Use by the Customer, notwithstanding any failure to pass any System Acceptance Test, and such Productive Use extends for a cumulative duration in excess of sixty (60) days, then the Solution shall be deemed accepted.

10 WARRANTIES

10.1 General Warranties

(a) NEC warrants that the Services provided to Customer shall substantially conform to the service level guarantees within the Service Level Agreement attached as Exhibit D.

(b) NEC warrants that its personnel are adequately trained and competent to perform the Services and that the Services shall be performed in a professional manner in accordance with industry standards.

Disclaimer of Warranties

EXCEPT FOR THE EXPRESS WARRANTIES CONTAINED IN THIS AGREEMENT, THE SERVICES AND NEC TECHNOLOGY ARE PROVIDED "AS IS." NEITHER PARTY MAKES ANY OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, IN FACT OR IN LAW, CONCERNING THE SERVICES OR ANY OTHER MATTER COVERED BY THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF TITLE, NON-

INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES ARISING BY STATUTE OR OTHERWISE AT LAW OR FROM A COURSE OF DEALING, USAGE OR TRADE.

11 INDEMNIFICATION

NEC shall defend any action, suit or proceeding brought against Customer so far as it is based on a claim that the use or transfer of any System Hardware or Software delivered hereunder constitutes an infringement of any United States patent or copyright, provided that NEC is promptly notified by Customer of the action and given full authority, information and assistance (at NEC's expense) for the defense of the action. NEC shall pay all damages and costs awarded therein against Customer but shall not be responsible for any compromise made without its consent. NEC may, at any time it is concerned over the possibility of such an infringement, at its option and expense, change or reasonably modify the aforementioned products and/or Services so that infringement will not exist.

However, in no event shall NEC be liable for any claims or demands attributable to the negligence or misconduct of Customer or failure of Customer to fulfill their responsibilities under this Agreement.

Customer agrees to indemnify and hold NEC and its licensors harmless from any claims relating to (i) Customer's willful misconduct, (ii) Customer's violation of any law, rules or regulations relating to the use of the Solution, including but not limited to, obligations for complying with all data protection legislation, in particular with regards to the transmission and processing of data, or (iii) Customer's use of the Solution beyond the scope of the license granted herein.

Exclusive Remedy. The foregoing provisions state the entire liability and obligations of each party, and the exclusive remedy of the other, with respect to any alleged intellectual property infringement hereunder.

11.1 LIMITATION OF LIABILITY

IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING LOST PROFITS AND LOST SAVINGS) SUFFERED OR INCURRED BY SUCH OTHER PARTY IN CONNECTION WITH THE SERVICES, OR ANY OTHER MATTER COVERED BY THIS AGREEMENT, REGARDLESS OF THE FORM OR THEORY OF THE ACTION, (INCLUDING NEGLIGENCE), EVEN IF SUCH OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE ABOVE LIMITATION, HOWEVER, DOES NOT APPLY TO DAMAGES TO NEC CAUSED BY CUSTOMER'S BREACH OF THE LICENSE LIMITATIONS OR USE OF THE SOLUTION IN VIOLATION OF APPLICABLE LAWS, RULES OR REGULATIONS.

NEC'S TOTAL CUMULATIVE LIABILITY TO CUSTOMER IN CONNECTION WITH THIS AGREEMENT SHALL NOT EXCEED THE AMOUNTS ACTUALLY PAID OR OWED BY CUSTOMER TO NEC HEREUNDER.

12 INSURANCE

12.1 INSURANCE COVERAGE

NEC SHALL HAVE AND MAINTAIN IN FULL FORCE AND EFFECT FOR THE DURATION OF THIS AGREEMENT INSURANCE INSURING AGAINST CLAIMS FOR INJURIES TO PERSONS OR DAMAGES TO PROPERTY WHICH MAY ARISE FROM OR IN CONNECTION WITH THE PERFORMANCE OF THE SERVICES BY NEC, ITS AGENTS, REPRESENTATIVES, OR EMPLOYEES.

NEC SHALL MAINTAIN COVERAGE AND LIMITS NO LESS THAN:

(a) COMPREHENSIVE GENERAL LIABILITY OF $1,000,000 PER OCCURRENCE FOR BODILY AND PERSONAL INJURY, SICKNESS, DISEASE OR DEATH, INJURY TO OR DESTRUCTION OF PROPERTY, INCLUDING LOSS OF USE RESULTING THEREFROM, AND $2,000,000 IN AGGREGATE.

(b) COMPREHENSIVE AUTOMOBILE LIABILITY (ANY AUTO) OF $1,000,000 COMBINED SINGLE LIMIT PER OCCURRENCE FOR BODILY AND PERSONAL INJURY, SICKNESS, DISEASE OR DEATH, INJURY TO OR DESTRUCTION OF PROPERTY, INCLUDING LOSS OF USE RESULTING THEREFROM.

(c) PROFESSIONAL LIABILITY OF $1,000,000 LIMIT FOR CLAIMS ARISING OUT OF PROFESSIONAL SERVICES CAUSED BY NEC'S ERRORS, OMISSIONS, OR NEGLIGENT ACTS.

(d) WORKERS' COMPENSATION LIMITS AS REQUIRED BY THE STATE OF _____ AND EMPLOYERS LIABILITY LIMITS OF $1,000,000 PER ACCIDENT.

(e) UMBRELLA LIABILITY OF $1,000,000

13 CONFIDENTIALITY

13.1 Confidentiality

The parties acknowledge that, during the Term of this Agreement, each party may provide the other with or otherwise expose the other party to confidential and/or proprietary information, including but not limited to data, information, ideas, materials, specifications, procedures, software, technical processes and formulas, product designs, sales, cost and other unpublished financial information, product and business plans, usage rates, marketing data or other relevant information clearly intended to be confidential (collectively, "Confidential Information"). The parties agree that all Confidential Information disclosed by the other party shall be held in confidence and used only in performance of Services under this Agreement, and shall not be disclosed to any third parties other than NEC's subcontractor for this Services. The receiving party shall exercise the same standard of care to protect such Confidential Information as is used to protect its own proprietary data, but in no event, less than a reasonable standard of care. The existence and terms of this Agreement shall be held confidential by each party, as shall each party's confidential or proprietary information. NEC's performance, discounts, and prices under this Agreement or other correspondence between the parties, the quality of NEC's Services, and any data provided by NEC to Customer regarding performance of NEC's Services shall be deemed NEC's Confidential Information.

13.2 Exclusions

Confidential Information shall not include information which: (i) is or becomes known publicly through no fault of the receiving party; (ii) is learned by the receiving party from a third party entitled to disclose it; (iii) is already known to the receiving party before receipt from the disclosing party; (iv) is independently developed by the receiving party; or (v) must be disclosed by operation of law. The receiving party shall promptly notify the disclosing party of any such request for disclosure in order to allow the disclosing party full opportunity to seek the appropriate protective orders. In addition, NEC shall not be required to keep confidential any ideas, concepts, know-how, or techniques of general application relating to information monitoring, management or security submitted to NEC or developed by NEC personnel, either alone or jointly with Customer's personnel.

13.3 RESERVED

14 INDEPENDENT CONTRACTOR STATUS

NEC IS AN INDEPENDENT CONTRACTOR. THE PERSONNEL OF ONE PARTY SHALL NOT IN ANY WAY BE CONSIDERED AGENTS OR EMPLOYEES OF THE OTHER. TO THE EXTENT PROVIDED FOR BY LAW, EACH PARTY SHALL BE RESPONSIBLE FOR THE ACTS OF ITS OWN EMPLOYEES. EACH PARTY SHALL BE RESPONSIBLE FOR WORKERS' COMPENSATION COVERAGE FOR ITS OWN PERSONNEL.

15 RISK OF LOSS

NEC shall pass risk of loss to Customer upon Shipment. All Deliverables will be shipped via CPT destination. NEC will select the carrier for shipment and Customer will bear the shipping costs.

16 RECORDS AND AUDITS

To ensure compliance with this Agreement, including the Software License Agreement, upon thirty (30) days written notice, Customer grants to NEC and its agents the right to audit Customer's use of the Solution.

17 APPLICABLE LAWS AND DISPUTE RESOLUTION PROCEDURE

(a) This Agreement shall be deemed to be made in, and shall be construed in accordance with the laws of, the State of Texas. The Uniform Computer Information Transactions Act does not apply to this Agreement or any change order.

(b) Any controversy or claim arising out of or relating to this Agreement, or breach thereof, shall be settled in arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("Dispute Resolution Procedure"). Judgment upon any award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

(c) Before a demand for arbitration may be filed by either party, the management of both Parties shall have met at least two times in face-to-face meetings in an effort to resolve any dispute or controversy through normal business management practices. Unless otherwise

agreed to in writing, a minimum of one meeting shall take place at each party's home office location.

(d) The arbitrator(s) shall have no power or authority to add to or detract from this Agreement of the parties. The arbitrator(s) shall have no authority to award damages over and above those provided for in this Agreement and in any event shall not exceed the limitations set forth herein, even if the remedy or limitation of liability provisions set forth in this Agreement shall for any reason whatsoever be held unenforceable or inapplicable.

(e) Neither party nor the arbitrator(s) may disclose the existence or results of any arbitration hereunder, except if the arbitration results in a Court imposed judgment, the non-disclosure restriction shall not be effective to the extent the matter becomes a public record.

(f) Each party shall bear its own costs in preparing for and conducting arbitration, except that the joint costs, if any, of the actual arbitration proceeding shall be shared equally by the parties.

18 CUSTOMER ACKNOWLEDGEMENTS

(a) Customer agrees not to (i) rent, lease, or loan the Service or any part thereof, or provide or use the Service on a third party's behalf, if applicable; (ii) permit third parties to benefit from the use of the Service; (iii) reverse engineer, decompile, or disassemble any Software that provides the Service, or otherwise attempt to derive the source code of such Software; or (iv) download, export, or re-export any Software or technical data received hereunder, regardless of the manner in which received, without all required United States and foreign government licenses.

(b) Customer complies with any applicable laws and regulations for using the Services and is solely responsible for complying with the legal obligations of all local country data protection legislation, in particular with the legality of transmission of data to NEC and the legal requirements for processing of data.

(c) Customer is responsible for the management and maintenance of any non-hosted components according to their respective manufacturer specifications.

(d) Customer agrees to provide all information, access and in good faith cooperate with NEC to deliver and provide the Services and agrees that NEC's delivery of the Services depends upon the Customer's timely cooperation and assistance as NEC may require. NEC shall bear no liability or otherwise be responsible for delays or failure in the provision of the Services caused by the Customer's failure to provide such cooperation, assistance or access.

(e) Customer acknowledges that export laws and regulations of the United States and other relevant local export laws and regulations apply to the Solution. Customer agrees that such export control laws govern Customer's use of the Solution and Customer agrees to comply with all such export laws and regulations (including "deemed export" and deemed "re-export" regulations.) Customer agrees not export or re-export any System Hardware and/or Software outside of the jurisdiction in which you obtained it without the appropriate United States or foreign government licenses.

19 ASSIGNMENT

This Agreement may not be assigned in whole or in part by either party, without the further consent written consent of the other party, which shall not be unreasonably withheld.

20 WAIVER, VALIDITY AND SEVERABILITY

20.1 Waiver

The failure by either party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other Party at the time designated shall not be construed as a waiver of any such default or right to which the other Party is entitled, nor shall it in any way affect the right of the Party to enforce such provisions thereafter.

20.2 Validity

The invalidity of any provision of this Agreement shall not render the other provisions hereof invalid, unenforceable or illegal, unless the essential purposes of this Agreement shall be materially impaired thereby.

20.3 Severability

In the event that any provision herein contained is held to be invalid, void or illegal by any court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement, if practicable, and shall in no way affect, impair or invalidate any other provision contained herein. If any such provision shall be deemed invalid in its scope or breadth, such provision shall be deemed valid to the extent of the scope or breadth permitted by law. If any provision of this Agreement is adjudged void or invalid for any reason whatsoever, but would be valid if part of the wording thereof were deleted or changed, then such provision shall apply with such modifications as may be necessary to make it valid and effective.

21 NOTICES

NOTICE TO PARTIES

ALL NOTICES UNDER THIS AGREEMENT SHALL BE DELIVERED PERSONALLY, SENT BY CONFIRMED FACSIMILE TRANSMISSION, SENT BY NATIONALLY RECOGNIZED EXPRESS COURIER, OR SENT BY CERTIFIED OR REGISTERED U.S. MAIL, RETURN RECEIPT REQUESTED, TO THE ADDRESS SHOWN BELOW OR SUCH OTHER ADDRESS AS MAY BE SPECIFIED BY EITHER PARTY TO THE OTHER PARTY IN COMPLIANCE WITH THIS SECTION. NOTICES SHALL BE DEEMED EFFECTIVE ON PERSONAL RECEIPT, RECEIPT OF SUCH ELECTRONIC FACSIMILE WITH CONFIRMATION, TWO (2) DAYS AFTER SUCH DELIVERY BY COURIER, OR FOUR (4) DAYS AFTER SUCH MAILING BY U.S. MAIL, AS THE CASE MAY BE. NOTICES SHALL BE SENT AS FOLLOWS:

Notices to NEC shall be addressed to:

NEC Corporation of America
6535 N. State Hwy 161
Irving, TX 75039
Attn: Legal Division – Contract Administration Department

With a copy to:

NEC Corporation of America
10850 Gold Center Drive, Suite 200
Rancho Cordova, California 95670
Attn: VP, Biometrics

Notices to Customer shall be addressed to:

22 CAPTIONS AND SECTION HEADINGS

Captions and section headings used in this Agreement are for convenience only, are not a part of this Agreement, and shall not be used in construing this Agreement. If there is a conflict when referencing a section in this Agreement, between the section heading title and its number, the section heading title shall control.

23 FORCE MAJEURE

Neither party shall be liable for failure to perform under this Agreement, if its failure to perform arises out of fires, floods, epidemics, quarantine restrictions, other natural occurrences, strikes, freight embargoes or acts of terrorism, but in every such case the failure to perform must be totally beyond the control and without any fault of the non-performing party.

24 NOTICE OF DELAYS

Exception as otherwise provided herein, when either party has knowledge that any actual or potential situation is delaying or threatens to delay the timely performance of this Agreement, that party shall, within ten (10) Business Days, give notice thereof, including all relevant information with respect thereto, to the other party.

IN WITNESS WHEREOF, NEC and Customer by their duly authorized signatures have caused this Agreement to be effective on the day, month and year first above written.

{INSERT CUSTOMER NAME}:

By _____

Signature

_____

Print Name

Title _____

NEC CORPORATION OF AMERICA

By _____

Signature

_____

Print Name

Title _____

EXHIBIT A

PLACE HOLDER FOR STATEMENT OF WORK

EXHIBIT B

PLACE HOLDER FOR PRICING AND PAYMENT SCHEDULE

Table 1: MONTHLY SERVICE FEES

INITIAL TERM:	
RENEWAL PERIODS:	

SERVICE FEE TERMS:

(a) TAXES.

ANY TAXES SHALL BE IN ADDITION TO THE SERVICE FEE LISTED AND IF REQUIRED TO BE COLLECTED OR PAID BY NEC SHALL BE PAID BY CUSTOMER TO NEC. IF CLAIMING A SALES TAX OR SIMILAR EXEMPTION, CUSTOMER MUST PROVIDE NEC WITH VALID TAX EXEMPTION CERTIFICATES.

(b) INVOICES.

ALL INVOICES WILL BE SENT TO CUSTOMER VIA EMAIL ("E-INVOICING") USING THE EMAIL ADDRESS(ES) OF THE CONTACT(S) PROVIDED TO NEC BY CUSTOMER BELOW, UNLESS CUSTOMER EXPRESSLY ELECTS TO OPT OUT OF E-INVOICING. CUSTOMER AGREES TO NOTIFY NEC IN WRITING, IF CUSTOMER CHANGES ITS CONTACT(S) FOR THE RECEIPT OF E-INVOICING. ALL PAYMENTS ARE TO BE MADE IN U.S. DOLLARS. PAYMENTS MAY BE MADE VIA APPROVED CREDIT CARDS AT THE TIME THE APPLICABLE ORDER IS PLACED. NEC'S REMITTANCE ADDRESS SHALL BE THE ADDRESS SPECIFIED WITHIN NEC'S INVOICES.

CUSTOMER'S ACCOUNTS PAYABLE CONTACT FOR E-INVOICING SHALL BE THE FOLLOWING:

NAME: _____

TITLE: _____

PHONE: _____

EMAIL: _____

EXHIBIT C

PLACE HOLDER FOR PROJECT SCHEDULE

EXHIBIT D

PLACE HOLDER FOR SERVICE LEVEL AGREEMENT

EXHIBIT E

PLACE HOLDER FOR ACCEPTANCE TEST PLAN

EXHIBIT F

PLACE HOLDER FOR FINAL ACCEPTANCE FORM

EXHIBIT G

NEC CORPORATION OF AMERICA

SOFTWARE LICENSE AGREEMENT

CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS. THE USE OF THE SOFTWARE WHICH IS LICENSED BY NEC CORPORATION OF AMERICA AND ITS LICENSORS TO YOU, FOR YOUR USE ONLY DURING THE TERM OF THE AGREEMENT AND AS SET FORTH BELOW.

1. LICENSE GRANT

   Subject to the terms of this license and payment of the applicable license fees, NEC grants Customer a (subject to Section 6 (Termination) in Agreement), non-exclusive, non-transferable license for the following:

   System License – to use the Software, including any System Documentation furnished under this Agreement, for Customer's own internal use on the Equipment;

   Unit License – to install and use a copy of the Software on your workstation or mobile devices ("Units"), up to the permitted number of Units. The permitted number of Units shall be delineated at such time as Customer's elects to license the Software.

   Archive License – If Archive component is included with your Software, the total number of users permitted to use the Archive component of the Software at the same time may not exceed the number of users delineated at such time as Customer's elects to license the Software.

2. RESTRICTIONS

   CUSTOMER MAY NOT DO THE FOLLOWING: (I) MODIFY, ADAPT, TRANSLATE OR CREATE DERIVATIVE WORKS BASED UPON THE SOFTWARE; (II) REVERSE ENGINEER, DECOMPILE, DISASSEMBLE OR OTHERWISE ATTEMPT TO DISCOVER THE SOURCE CODE OF THE SOFTWARE EXCEPT TO THE EXTENT YOU MAY BE EXPRESSLY PERMITTED TO REVERSE ENGINEER OR DECOMPILE UNDER APPLICABLE LAW; (III) SELL, RENT, LEASE, TIMESHARE, PROVIDE SUBSCRIPTION SERVICES, LEND, SUBLICENSE, DISTRIBUTE, ASSIGN OR OTHERWISE TRANSFER ANY RIGHTS IN THE SOFTWARE; AND (IV) DISCLOSE OR PUBLISH RESULTS OF ANY BENCHMARK TESTS OF ANY SOFTWARE TO ANY THIRD PARTY WITHOUT NEC'S PRIOR WRITTEN CONSENT. CUSTOMER MAY MAKE ONE BACKUP COPY OF THE SOFTWARE PROVIDED YOUR BACKUP COPY IS NOT INSTALLED OR USED UNTIL NEEDED. CUSTOMER MAY NOT TRANSFER THE RIGHTS TO A BACKUP COPY.

3. INTELLECTUAL PROPERTY OWNERSHIP, RESERVATION OF RIGHTS

   CUSTOMER ACKNOWLEDGES AND AGREES THAT (I) NEC AND ITS LICENSORS OWN AND SHALL RETAIN ALL RIGHTS, TITLE AND INTEREST IN AND TO THE SOFTWARE, INCLUDING WITHOUT LIMITATION, ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED THEREIN; AND (II) THE SOFTWARE'S STRUCTURE,

ORGANIZATION, SEQUENCE AND SOURCE CODE ARE THE VALUABLE TRADE SECRETS AND CONFIDENTIAL INFORMATION OF NEC AND/OR ITS LICENSORS. THE SOFTWARE IS PROTECTED BY LAW, INCLUDING WITHOUT LIMITATION THE COPYRIGHT LAWS OF THE UNITED STATES AND OTHER COUNTRIES, AND BY INTERNATIONAL TREATY PROVISIONS. EXCEPT AS EXPRESSLY STATED HEREIN, THIS LICENSE DOES NOT GRANT CUSTOMER ANY INTELLECTUAL PROPERTY RIGHTS IN THE SOFTWARE AND ALL RIGHTS NOT EXPRESSLY GRANTED ARE RESERVED BY NEC AND ITS LICENSORS. CUSTOMER AGREES NOT TO REMOVE OR OBLITERATE ANY COPYRIGHT, TRADEMARK OR OTHER PROPRIETARY RIGHTS NOTICES CONTAINED IN OR ON THE SOFTWARE.

4. THIRD PARTY BENEFICIARIES

   CUSTOMER ACKNOWLEDGES AND AGREES THAT NEC'S LICENSORS ARE DIRECT AND INTENDED THIRD PARTY BENEFICIARIES OF THIS SOFTWARE LICENSE AGREEMENT.

5. TERMINATION

   THIS LICENSE WILL TERMINATE IMMEDIATELY BY NEC AS SPECIFIED IN SECTION 6 (TERMINATION) OF THE AGREEMENT, UPON SUCH TERMINATION, YOU SHALL IMMEDIATELY REMOVE AND DESTROY ALL COPIES OF THE SOFTWARE OR ANY PARTS THEREOF.

6. LIMITED WARRANTY

   EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH IN THIS AGREEMENT, NEC AND ITS LICENSORS EXPRESSLY DISCLAIM ALL OTHER WARRANTIES WITH RESPECT TO THE SOFTWARE, EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON- INFRINGEMENT OF THIRD PARTY RIGHTS. NEC DOES NOT WARRANT THAT THE SOFTWARE WILL MEET YOUR REQUIREMENTS, OPERATE IN COMBINATION WITH OTHER PRODUCTS NOT PROVIDED BY NEC, BE UNINTERRUPTED, OPERATE ERROR FREE OR THAT THE ERRORS WILL BE CORRECTED.

7. LIMITATION OF LIABILITY

   IN NO EVENT SHALL NEC OR IT'S LICENSORS BE LIABLE TO CUSTOMER FOR (I) ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES, OR (II) ANY DAMAGES OR COSTS RESULTING FROM LOSS OF USE, GOODWILL, DATA, SAVINGS OR PROFITS, WHETHER FORESEEABLE OR UNFORESEEABLE WHICH MAY ARISE OUT OF THE USE OR PERFORMANCE OF THE SOFTWARE. IN NO EVENT WILL NEC'S OR IT'S LICENSORS' AGGREGRATE LIABILITY FOR ANY CLAIM, WHETHER IN CONTRACT, TORT OR ANY OTHER THEORY, EXCEED THE SERVICE FEES PAID BY CUSTOMER.

8. U.S. GOVERNMENT RIGHTS

   THE SOFTWARE WAS DEVELOPED ENTIRELY AT PRIVATE EXPENSE. THE SOFTWARE LICENSED UNDER THIS AGREEMENT IS "COMMERCIAL COMPUTER SOFTWARE" AS THE TERM IS DESCRIBED IN 48 C.F.R. 252.227-7014(A)(1). IF

ACQUIRED BY OR ON BEHALF OF A CIVILIAN AGENCY, THE U.S. GOVERNMENT ACQUIRES THIS COMMERCIAL COMPUTER SOFTWARE AND/OR COMMERCIAL COMPUTER SOFTWARE DOCUMENTATION SUBJECT TO THE TERMS OF THIS AGREEMENT AS SPECIFIED IN 48 C.F.R. 12.212 (COMPUTER SOFTWARE) AND 48 C.F.R. 12.211 (TECHNICAL DATA) OF THE FEDERAL ACQUISITION REGULATIONS ("FAR") AND ITS SUCCESSORS. IF ACQUIRED BY OR ON BEHALF OF ANY AGENCY WITHIN THE DEPARTMENT OF DEFENSE ("DOD"), THE U.S. GOVERNMENT ACQUIRES THIS COMMERCIAL COMPUTER SOFTWARE AND/OR COMMERCIAL COMPUTER SOFTWARE DOCUMENTATION SUBJECT TO THE TERMS OF THIS SOFTWARE LICENSE AGREEMENT AS SPECIFIED IN 48 C.F.R. 227.7202-3 OF THE DOD FAR SUPPLEMENT ("DFAR") AND ITS SUCCESSORS.

9. EXPORT

   THE SOFTWARE SUPPLIED BY NEC UNDER THIS AGREEMENT IS SUBJECT TO EXPORT CONTROLS UNDER THE LAWS AND REGULATIONS OF THE UNITED STATES. CUSTOMER SHALL COMPLY WITH SUCH LAWS AND REGULATIONS GOVERNING EXPORT AND RE-EXPORT AND WILL OBTAIN ALL REQUIRED U.S. AND LOCAL AUTHORIZATIONS, PERMITS OR LICENSES.

10. GOVERNING LAW

    THIS SOFTWARE LICENSE AGREEMENT WILL BE CONSTRUED UNDER THE LAWS OF THE STATE OF TEXAS, EXCLUDING THE APPLICATION OF ITS CONFLICTS OF LAW RULES. THE UNIFORM COMPUTER INFORMATION TRANSACTIONS ACT DOES NOT APPLY TO THIS AGREEMENT.